HARPER'S WEEKLY

EDITED BY
GEORGE HARVEY

FEB 23 1912
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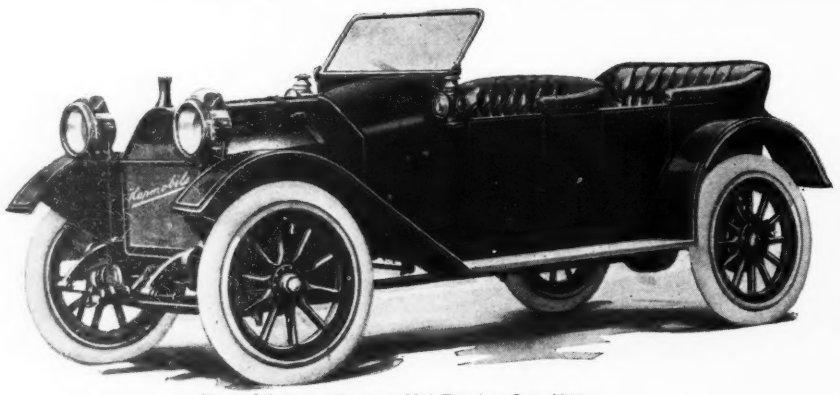
February 24 1912 HARPER & BROTHERS, N. Y. Price 10 Cents

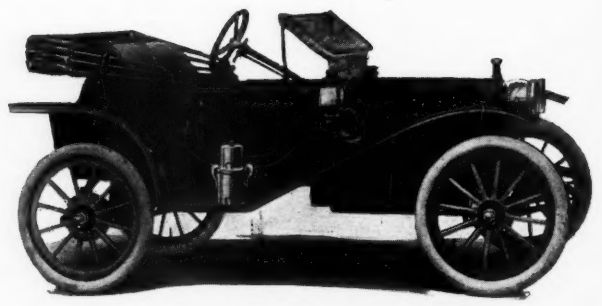
Globe-girdling *Hupmobile* completes tour;

pays striking tribute to the staunchness of its splendid successor



Hupmobile Long-Stroke "32" Touring Car—$900

F. O. B. Detroit, including equipment of windshield, gas lamps and generator, oil lamps, tools and horn. Three speeds forward and reverse; sliding gears. Four cylinder motor, 3¼-inch bore x 5½-inch stroke. Bosch magneto. 106-inch wheel-base. 32 x 3½-inch tires. Color—Standard Hupmobile blue. Roadster—$900.



Standard 20 h. p. Runabout—$750

F. O. B. Detroit, with same power plant that took the World-Touring car around the world—4 cylinders, 20 h. p., sliding gears, Bosch magneto. Equipped with top, windshield, gas lamps and generator, oil lamps, tools and horn. Roadster—$850. Coupé—$1100.

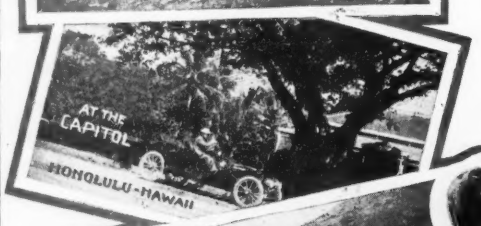
New York's eyes were opened during Show Week to the splendid "staying powers" of Hupmobile construction by the triumphant return of the World-Touring car.

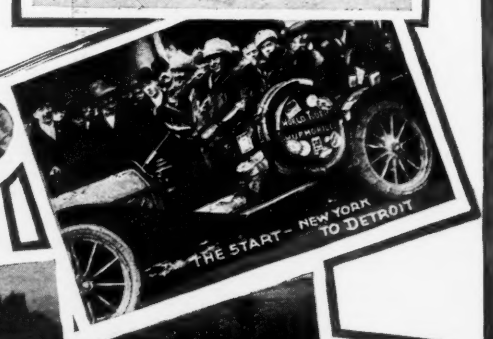
The amazing achievements of this car, in its 40,000 mile trip, conferred additional distinction upon the new Hupmobile Long-Stroke "32"—first publicly shown at New York—because both are the fruits of the same skilled organization and the engineering leadership of E. A. Nelson.

Hupmobile sturdiness, exemplified so strikingly in the World-Touring car, receives new and more impressive expression in the Long-Stroke "32," with its distinctive features and its generous power—found heretofore only in cars costing a great deal more than $900.

HUPP MOTOR CAR COMPANY
1232 Jefferson Avenue, DETROIT, MICH.

The accompanying views are reproduced from photographs taken during the Hupmobile's world-tour.





HARPER'S WEEKLY

A JOURNAL OF CIVILIZATION

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THE PERSIAN LAMB PROTESTS AGAINST ASSIMILATION

After Russia had compelled Persia to dismiss from her service W. Morgan Shuster, the American who had been placed in charge of her finances, the Persian Nationalists rose in revolt against the Russian troops who occupied the northern provinces. This photograph, one of the first to be received in this country, shows a body of volunteers preparing to resist the Cossacks upon the hills of Soujah, near Tabriz

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Comment

A Curious Coincidence

SPEAKING of the Presidency:

If a Certain Person would go away and stay away, the Republican party would go into the campaign practically united and confident of success.

If an Uncertain Person would go away and stay away, the Democrats would line up solidly behind a strong candidate and almost surely win.

But they won't. So there you are!

T. R. in Verse

While Brother NELSON lingers in this thug-ridden city, conferring daily with the Great Renunciator, his Kansas City *Star* continues to publish Presidential preferences from thousands of straw subscribers. Brother ROLLO OGDEN, who has an analytical mind, figures out in the *Evening Post* that, according to the polls, "whomever the Democrats nominate, ROOSEVELT will carry Arkansas, Florida, Kentucky, Oklahoma, Tennessee, and Virginia; probably carry Louisiana, and make a close fight in Texas, with an indicated popular majority in the nation of about ten millions." Wonderful, truly wonderful! No wonder Brother NELSON night-letters a poem back to his paper—to wit:

Who was it took our government when things were on the bum,
And with restored confidence made the wheels of commerce hum?
T. R.

Who took the Panama Canal when everything looked blue,
And put the ginger in it to put the project through?
T. R.

Who started conservation our forests to preserve?
Who hunted lions in Africa and never lost his nerve?
T. R.

Who spoke before a faculty of the wisest men he knew,
And on every bloomin' subject told them all a thing or two?
T. R.

Very pretty, that! We like especially the suggestion of an effervescing canal. It will make a gay trip of it. The retention of nerve, too, well deserves rhythmical celebration. But what impresses most, as a matter of historical accuracy, is the reference to the condition of affairs when Mr. MCKINLEY was killed and the Colonel took hold. We can almost hear the wheels of commerce humming ever since, particularly in 1907. Kansas City not being a dry town, we wonder if Brother NELSON has taken out a poetic license. He ought, in all conscience, or put the lid upon his muse.

Machines in Motion

Recording the fact that the Georgia Republicans voted to send twenty-six delegates for TAFT, the *Times* remarks naïvely: "The ROOSEVELT men were completely outwitted by the TAFT steam-roller." Now, what do you know about that? Outwitted by a stupid steam-roller. We may yet live to see a shaft of wit neatly parried by a satirical derrick.

Too Good to be True

The *Commoner* gleefully prints the following:

During a local election in a German town only one man appeared at the nomination desk.

"Whom do you nominate?" inquired the official.

"Myself," was the answer.

"Do you accept the nomination?"

"Well, no."

"Then we must try again. Whom do you nominate?"

"Myself."

"You accept the nomination?"

"No."

A subdued "Donnerwetter!" escaped the lips of the perplexed official, but he went on:

"For the third time, whom do you nominate?"

"Myself," came the invariable reply.

"Do you accept the nomination?"

The man rose with a smile of satisfaction spreading over his face and he answered proudly:

"Having been three times solicited by my fellow-citizens to accept the nomination, I can no longer decline to accede to their wishes."

Brother BRYAN is getting to be very subtle. What do you suppose he is hinting at now? Can it be possible that he is presaging a personal declaration to the effect that—

Having been three times solicited by my fellow-citizens to go away back and sit down, I can no longer decline to accede to their wishes?

Oh, happy day!

Everything O. K.

What has happened in this country to account for this time of unrest, investigating, probing, forebodings, and general hubbub over this and that?—*New Haven Journal-Courier.*

Nothing has happened, Brother OSBORNE, and nothing is going to happen. The country is all right, the people are all right, the government still lives at Washington, and Common Sense sits serenely in the saddle. In the words of the Messrs. WEBER-FIELDS, "Don't get the excitement"!

A Happy Circumstance

The reason, we suspect, why the Attorney-General doesn't attack the Demagogue Trust is that it is such a little one.

The Dollar Not the Enemy of Man

Considering how many speeches he makes, it is remarkable how often President TAFT succeeds in saying something. His mind is a good machine, and the materials of thought that have been fed into it were substantial materials. For example, in the course of his LINCOLN'S Day address before the Republican Club in New York, we find him saying:

It has been said, and it is a common platform expression, that it is well to prefer the man above the dollar, as if the preservation of property rights had some other purpose than the assistance to and the uplifting of human rights. Private property was not established in order to gratify love of some material wealth or capital. It was established as an instrumentality in the progress of civilization and the uplifting of man, and it is equality of opportunity that private property promotes by assuring to man the results of his own labor, thrift, and self-restraint. When, therefore, the demagogue mounts the platform and announces that he prefers the man above the dollar he ought to be interrogated as to what he means thereby—whether he is in favor of abolishing the right of the institution of private property and of taking away from the poor man the opportunity to become wealthy by the use of the abilities that God has given him, the cultivation of the virtues with which practice of self-restraint and the exercise of moral courage will fortify him.

Now, I am far from saying that the development of business, the discovery of new and effective methods of using capital, have not produced problems which call for additional action by the government to prevent the abuses of the concentration of wealth and the combination of capital. Moreover in order to attempt investment we have doubtless in times past permitted the State to pledge to individuals privileges more permanent and of wider scope than the public interest demanded, and we have permitted the establishment of corporations and the acquisition of power through the corrupting use of money in politics, so as at times to give to a few dangerous control in legislation and government. But during the last ten years much progress against such abuses has been made in this regard.

That is all true, and all sensible and timely. The notion that the dollar is the enemy of the man is being widely disseminated by many mouths. It is a highly fallacious notion. The dollar is one of the best friends man has. He does well to make for it and cling to it; to be solicitous that it shall reach him with proper frequency, and shall not get away from him too soon or too much. Also he should prefer that it shall be his own, personally acquired and personally kept or spent, not bestowed on him by government or legislation, but run down by his own activities and carried home on his own legs.

Civilization proceeds hand in hand with the dollar. The dollar means food, clothes, shelter, education, health. More dollars, properly and justly distributed, mean more of all of these excellent things. Restricted creation of dollars, or the wealth which they stand for, means restricted participation in these benefits. Good business means more dollars. Bad business means fewer dollars. There may be, and sometimes are, abuses so important that it is worth a considerable temporary damage to business to cure them. But one important end of the cure is to make business better in the long run. The notion that bad business will in itself do good by decreasing the number of dollars that are oppressing man is a very foolish notion indeed. Yet a lot of mouths keep talking as though there was sense in that idea.

Sound Judgment

Colonel ROOSEVELT has never said to me or to any living human being, to my knowledge, that he would refuse the nomination.—Governor STUBBS.

Oh yes, he has; he simply does not regard what he says of any consequence. Quite rightly, too, in our opinion.

The Case of Brandt

The BRANDT case has lately engaged, and still engages, a considerable share of public and newspaper attention in these parts. It is an interesting case, though it is still difficult to extract the facts about it from the entangling mass of rumor, gossip, and report in which they are imbedded. It appears that BRANDT worked as valet for MORTIMER L. SCHIFF, was discharged, reappeared in Mr. SCHIFF'S house at night, assaulted Mr. SCHIFF more or less, had a long parley with him, received fifty dollars from him, and agreed to report to him the following morning at his bank. BRANDT did so report; was arrested and held for trial, and by advice of counsel pleaded guilty to burglary. A report of his past career purporting to have been made by a detective, and indorsed by an inspector of police, was handed to the judge who tried him, and partly on the basis of that report the judge sentenced him to thirty years' imprisonment, four or five of which he has served. It now appears that BRANDT'S counsel was a lawyer who has since been disbarred, and that the detective's report on his past career was mere hearsay and largely untrue. It is further alleged that his plea of guilty was made either under a misapprehension or on the strength of assurances of leniency which were not lived up to, and that he was not really guilty of burglary. It is suggested, and the circumstances of the case so far as known do much to further the suggestion, that the valet being an uncomfortable and dangerous person to have at large, was railroaded to prison, and sentenced for a very much longer term than was warranted by any offenses that he is known to have committed. Judge GERARD has ordered him brought back to town for re-examination and possibly for retrial. Governor DIX has ordered an examination into all the circumstances of the case, and appointed ex-Judge RICHARD HAND as commissioner for that purpose. It is all interesting, and may be important. The newspapers are enjoying the case very much; the gentlemen most concerned with securing the valet's imprisonment probably not so much. The public is very glad to have something to talk about besides candidates, and it must be conceded that the case in its present stage affords ample facilities for discussion.

Men of Straw

Eight governors and an unlimited number of straw voters have declared for ROOSEVELT.—*Philadelphia Record.*

"Straw voters" is exact. "Asparagus Governors" also would fit the case.

Medical and Military Ethics Clash

So Major-General Dr. AINSWORTH, after being relieved of his duties as Adjutant-General because of insubordination, has applied to go on the retired list.

Well, well! Doctors, of course, are autocratic men. Cases have been known where doctors in charge of hospitals have fallen out with their staffs and fired the whole bunch. Dr. AINSWORTH is not a West-Pointer. Cursory examination of his correspondence with Secretary STIMSON favors the inference that he was trained in a hospital. But Major-General Dr. WOOD, who is anathema to Dr. AINSWORTH, also had hospital training; so Greek met Greek.

It is awful when doctors disagree.

So Say We All

We are for ROOSEVELT still.—Ex-Senator FLINN.

Amen to that!

Respectfully Referred

One of the New England newspaper correspondents was rounding up his delegation in the Capitol to-day.

He ran across Representative EBENEZER HILL, of Connecticut.

"Hello, Mr. HILL!" he said. "What's the outlook?"

"Damn the *Outlook!*" replied Mr. HILL; "I don't read it."—*The World.*

This won't do at all. Authorities agree that judicious use of the word "damn" does not involve violation of the Mosaic injunctions, but expressed in this connection it is shocking, if not indeed sacrilegious. We refer the case of EBENEZER to Brother CHAPIN for suitable treatment in the rarefied columns of the Waterbury *American.*

We Make a Nomination

The Porto Rico *Observer* prints an interview with Senator ROOT, which so far has not been repudiated by that distinguished statesman. Whatever Mr. ROOT says is interesting always, and generally, as in this instance, important, especially to the Porto-Ricans. His words are reported:

What right have we to pretend to govern a country over one thousand miles away? Without asking you I feel sure that we are governing Porto Rico badly, because we have to confide its government, so far from us, to men who, it is most certain, do not understand you; logic tells us that, no matter how badly you may govern yourselves, you will always do it better than the men we send you. Do not expect that Porto Rico will ever become a State of the Union; we have finished making States with the admission of our last two contiguous Territories.

We guess this is so. If we once begin setting up States across the deep waters, no one can foresee the end thereof. The interview continues:

The Senator was asked: "Why then did you promise us citizenship in your platform?"

This Mr. ROOT first answered by another question as to how much work it cost to have that plank put in the platform, and he continued:

"I do not criticize you for your efforts to secure that political promise; you naturally try to improve every opportunity to reach the end you have in view. But, at present, when it is proposed to fulfill that promise, our legislators must consider seriously what is best and most useful for the interests of both countries."

Just what the "work it cost" to have the plank inserted has to do with the pledge we cannot surmise. But the frank shifting of base when it came time to "fulfill the promise" is quite in line with tariff legislation by the Republican party under circumstances strikingly similar. Ever since the country was guaranteed "a substantial revision downward" and got a jolly elevation instead, folks have been disposed to raise their eyebrows when asked to take stock in Republican pledges. But that is another story.

The truth is that we cannot consistently or decently ignore for all time the natural desire of the Porto-Ricans to participate in their own government. As things stand now, they are not citizens of anything. They are both stranded and helpless. No doubt about it. Uncle Sam's attitude in this matter is most unbecoming. He won't marry the dusky maiden, he won't divorce her, he won't even promise a permanent engagement, or to be a big brother to her for any definite period.

That's not right. Such a policy or lack of policy belies all of our professions, and makes us appear ridiculous in the eyes of all mankind. Granting that we do not want and will not accept more States or Territories, somebody ought to get busy and formulate a colonial or protective scheme of government for our outlying possessions—somebody who knows what he is about and is in sympathy with the people themselves.

We know just the man—Senator ELIHU ROOT, former Secretary of War, former Secretary of State, and foremost statesman of the present day and generation.

Funny, Isn't It?

It is rather funny, after all, to see these professional conservationists running around the country hacking at all the Presidential timber in sight on behalf of an underbrush candidate!

China

Dr. SUN YAT SEN has resigned the Presidency of the Chinese republic, and YUAN SHIH KAI has been chosen President in his stead by the National Assembly at Nankin. The change is thought to be favorable to the republic. Both men are progressives, and persons of sanity and distinction. Dr. SUN has concurred in the election of President YUAN, and indeed advocated it, and has urged his followers to support him. We read of President YUAN's humane and gentle treatment of the Empress and the child Emperor after their abdication, and of the Empress as expressing her gratitude to him, and of her intention of remembering him in her prayers to her ancestors. It all makes him seem a man acceptable to all the chief forces available for government in China, both old and new.

But as China gropes for reorganization, so we all grope who are watching her from afar off, and trying to guess how her concerns are working out. She has highly civilized and able men to guide her, but it is an enormous raft they are on, and one that is likely to drift much before it responds perceptibly to sail and rudder. The names of her masters, as they come and go, are a difficulty, being unfamiliar, and a special tax on the Western memory. It is harder to follow a statesman whose personality is represented by sounds associated in our minds with poultry and confectionery rather than with statecraft, and inevitably jocular in their first suggestion.

Got in Its Work

As we remember our history, it was the *recall* that brought NAPOLEON back from Elba, and led him on to Waterloo.

Mr. Wickersham on the Sherman Law

Mr. WICKERSHAM writes hopefully in the *Century Magazine* about the enforcement of the anti-trust law. He says we don't feel nearly as bad about it as is popularly supposed. A few thoroughly discontented people, he thinks, by diligent repining, give an impression of public dissatisfaction which is not really warranted. And as for the few discontented, he says they ought to be so, not because the law is too vague, as they assert, but because it is precise enough to hinder them effectively from doing what they want to do—that is, from getting and keeping a monopoly in some line of business.

He quotes Mr. EDMUNDS's piece in *The North American Review* in support of his own opinion that "every thoughtful person will agree that the SHERMAN Act, or some equally effective statute, was absolutely necessary to check the growing centralization in a very few hands of the vast industries of the United States." He knows of only one class of combination-makers which still finds the law uncertain. As to that he says:

I doubt if this class is so great as is thought; but it exists, and its members are actual and honest. They are the owners of, say, two or more concerns engaged in the same or similar lines of business who desire to consolidate or combine their efforts, and the investors whom they invite to contribute to the combined enterprise. In making such a consolidation there is necessarily eliminated such competition as existed between them in the past. If the object of that combination is not the mere destruction of an existing competition, but the carrying on of the business under improved conditions, with economies of production and management, the combination cannot be said to be illegal. Nevertheless, there is an uncertainty in ascertaining the actual purpose. At the outset, this purpose is locked in the breast of the participants in the combinations. They may declare it truthfully or they may not; and, aside from what they say, it may be difficult for an outsider to decide truly and accurately whether or not the combination has for its object a restraint of trade or an expansion of trade. Subsequent acts, however, reveal the purpose.

He thinks that the work of surgery done on the big trusts that have been split up will prove much more effective than his critics admit. Unless a single, central intelligence directs and controls the activities of all the parts, it is impossible, he says, for a general body of stockholders to control the policies and activities of different corporations.

Moreover, while each of these companies may have to-day the same stockholders, in the same proportions, that identity begins to change the day after the distribution. Each of these stockholders receives certificates of fractional shares in different companies. He is certain to dispose of some shares in one company and to buy one or more in another, and the natural operation of the law of existence tends constantly to the disintegration of the original identity of stockholding.

He is for Federal incorporation of big concerns doing a large interstate business, but while he would make it convenient and desirable, he would not as yet make it compulsory.

Possible Effect on Messages

One advantage of a government-owned telegraph would be the inducement offered the President to send night messages of fifty words at reduced rates, instead of waiting until daytime and unloading 30,000 words at a time.

Marathoning the Bible

Texas is waking up to sport. She has caught the Marathon idea, and made an application of it which is an example to us all. We read in the paper that at Pecos, on Sunday, February 11th, in one of the leading churches, the Bible was read through from cover to cover, aloud, in eighteen hours. Sixty readers were on the job, and they began at six in the morning. The despatch says:

The reading began with a small audience, for the hour was early, but as the day wore on interest in the novel entertainment was stimulated and by noon the church was filled.

Throughout the afternoon and evening the congregation grew and at midnight, when the last reader pronounced the final words, there was not an inch of vacant room in the aisles around the altar.

And we hope all bets were paid promptly.

Encouragement for Women

Service is far more important to the development of human creatures than most of its rewards. The great progress of women in liberty and power in our time is an inevitable consequence of the increasing relative value of their work. For a good while now the men have been getting nearly all the whiskey, and the women have been getting most of the religion. Of course that makes with persistence and precision for female superiority. The religious people are sure in the long run to rule the irreligious; the sober to rule the convivial. Moreover, in a democracy that can maintain popular government, those who carry will rule in the long run those who ride. If women's services are worth nowadays more than they bring in power and money, women are in the direct line of promotion. If men are getting more than they are worth, they are riding to a fall. The suffragists maintain, in effect, that that is how the case does stand; that the women are not getting their dues, and that a good deal should be subtracted from the men and handed over to them. If that should be done, doubtless woman's progress would slacken up, and men, scourged on by tribulation, might begin to forge ahead again. Certainly, if women are to do men's work, in the end they will get men's rewards, such as they are.

Marriers Will Discriminate

DETROIT, *February 12.*—By practically unanimous vote the members of the Detroit Pastors Union to-day passed a resolution pledging themselves not to marry the guilty party to a divorce in which adultery was alleged and to solemnize no marriage where either party is unfit for marriage by reason of immaturity, ill health, or vicious habits.

Splendid, but who's to be the judge of health and habits? It is hard to standardize a matter requiring so much judgment, but the resolution may encourage such pastors as have judgment to use it, and that is something.

Our Germs Are Not So Bad

The London *Daily Mail* makes fun a column long of Lord TANKERVILLE, who put his boy at school in Boston because he thought that there was something stirring in the atmosphere of this land that might do the boy good. The *Mail* jibes at him in this wise:

In Boston there will be none to "kow-tow" to him, for there will be none to know who he is. He goes to school as plain CHARLES BENNET, and though this poignant fact has been printed in every newspaper of the United States it is already piously forgotten. And as plain CHARLES BENNET he will become familiar with that profound truth that all men are equal. He will find out that there is no difference between Mr. PIERPONT MORGAN and the Bowery boy. Where there are no titles money confers no privilege. Besides, in the land of the free no man has yet been known to pursue the dollar too zealously. The dollar exists, it is true, but merely as the kindly minister of the simple life. Every citizen in the United States is amply content if he can purchase enough food and drink to nourish his body, subscribe liberally to a Sunday-school, and find leisure to attend his Browning Club once a week. What a change indeed will the plain-living and high-thinking Boston afford to the purse-proud, vulgar, sycophantic Eton!

That is all fair game enough. Lord TANKERVILLE's experiment may or may not fulfill his hopes, but it is interesting, and he talked no nonsense about it. Moreover, *Daily Mail,* there are very interesting germs in the air of this bumptious country, and provided they get into the right lungs at the right time, they are liable to do good. They are sometimes reviving to sound constitutions that need new breath. Last night at dinner we sat next to a distinguished painter. He said there had not been a first-class English portrait-painter since GAINSBOROUGH, RAEBURN, and that group, until SARGEANT came. SARGEANT has American germs in him. WHISTLER, a great painter, however faulty or eccentric, was American born and bred. SHANNON, an admirable London portrait-painter, was born in New York State, and lived there in his boyhood. In all these cases you have the American germ developed in London. Change of environment is sometimes marvelously stimulating.

A Light is Out!

WHEN the campanile fell in Venice and the "Mona Lisa" disappeared from the Louvre there was world-grief. Everywhere people felt that beauty which they had had the privilege of gazing upon had left the world. There is a beauty far more precious, in the great scheme of things, than any work of art; a beauty so precious indeed that it is never bared to the gaze of the multitude and is, perhaps, only held in its essential and unbroken content at the heart of the great Creator and Lover of Life. This is the beauty of a beautiful soul. A beautiful soul! Here and there in life we come upon one as harmonious as music, as gentle as a summer's breeze, as steadfast as a star, and we accept it as a part of the natural good in life and hardly know how much it means, until of a sudden the light goes out and we realize that our life has flowered in the circle of its radiance.

Such a life, harmonious, gentle, steadfast, slipped out into the unknown last week when Mrs. ROGER A. PRYOR died. Hers was a life notable not only on its personal side, for from the year of her birth in 1830 to her death in mid-February of this year she lived in the mid-current of life and thought and culture. At the age of seventy she became an author and her volumes—*Reminiscences of Peace and War*, *The Mother of Washington and Her Times*, *The Birth of a Nation*, *The Colonel's Love Story*, and *My Day*—reconstruct and set living before our eyes the finest flower of Southern civilization before the great upheaval as perhaps no other books do.

"The small records of an unimportant, individual life, the memories which happen to linger in the brain of the old like bits of drift-wood floating round and round in the eddies of a back-water, can more vividly than anything bring before the young of the present generation those ways of acting and thinking and talking in the every-day affairs of life which indicate the differences between themselves and their grandfathers," writes Mrs. PRYOR, and in thus giving to the world the pictures that remained in her mind she gave the picture of a whole locality; an entire civilization, a civilization now being rapidly swept out of the mind and memory of man. But all the old life lives again in that fascinating record, *My Day*. The RIVESES, the CARRINGTONS, the CABELLS, the BRUCES, RANDOLPHS, MEADS, and TAYLORS bow in and out of one another's parlors, exchanging the old-time courtesies. It was a society where every one's great-grandfather knew every one else's great-grandfather and where rules of courtesy and good breeding were so far-reaching that they included kindly living and social responsibility.

From such a blessed childhood as few can boast, a childhood spent in gardens abloom "with roses, lilies, violets, jonquils, flowering almond-trees which never fruited, double-flowering peach-trees which also bore no fruit, but were with the almond-trees cherished for the beauty of their blossoms," Mrs. PRYOR, then Miss RICE, was taken to Charlottesville for her education and social life. At the age of ten she entered school and was provided with ABERCROMBIE'S *Intellectual Philosophy*, WATTS'S *On the Improvement of the Mind*, GOLDSMITH'S *History of Greece*, and some one else's *History of Natural Philosophy* as suitable text-books for her tender years. Mrs. PRYOR remarks: "As I could not understand these books, I learned by rote a few words in answer to the questions. . . . If any collector of old books should happen to find a volume of WATTS, much thumbed and blotted here and there with tears, and should see within the early pages penciled brackets inclosing the briefest possible answers to the questions, that book, those tears are mine; the brackets are the loving marks made by MARGARET WOLFE whose memory I ever cherish. 'What is logic?' questions the teacher's guide at the bottom of the pages. 'Logic,' in conspicuous penciled brackets, 'is the art of investigating and communicating truth.'"

Such was the little girl's book education, but whence she derived her high and lovely distinction of manner, her rare and exquisite beauty of person and of heart, her splendid and unflagging courage in the face of life, she herself could never tell us. It was the loveliest blossom of that civilization which held as its motto: *Noblesse oblige*.

No one accepted with greater grace and loveliness of spirit than Mrs. PRYOR the destruction of those ideals in which she had been reared and upon which she had set her faith. When, after the war, she came to live in New York and was introduced at a function to General SHERMAN she exclaimed, "Oh, General, I never expected to find myself in the same boat with you!" The general assured her that he was not so black as he was painted and asked to call at her house. The permission was granted. It is something that the gentle annalist adds: "His daughter I afterward made my friend."

The great change in woman's occupations and interests, the expanding and enlarging of her life, came as a grief to Mrs. PRYOR, whose traditions all centered round the sheltered, hothouse type of woman—a woman who even when she was forced into the open retained the privileges and charms of another day. But no changes, no differences of opinion ever narrowed her sympathies. When she talked to the younger women whom she loved and disliked seeing in the enemy's camp, it was always with her hand on theirs, with a visible yearning to keep unbroken the personal bond which lies so much deeper and means so much more than any merely external opinion.

In all essentials she faced life with high courage and unbounded sympathy. There was no place in her heart where fear or meanness or envy lurked. Bravely, tenderly, hopefully she lived through great events. Her life, her sympathies, her wide circle of social influence, her varied experience and close relation to the history of her country gave the material for her books. But these can make no profounder impress than did her high and gracious personality upon those fortunate enough to come within its radius.

How many, when they hear that her kind heart is stilled, her busy, active hands and brain idle, and all that beauty which she was, perished forever from the earth, will grope in pain and feel indeed—the light is out!

LOUISE COLLIER WILLCOX.

Correspondence

GOVERNOR CROTHERS OF MARYLAND

BALTIMORE, MD., *January 19, 1912.*

To the Editor of Harper's Weekly:

SIR,—Realizing that this is the time when the political field is being scanned most closely for Presidential timber, I beg leave to bring to your attention Hon. Austin L. Crothers, whose term of office as Governor of Maryland has just expired.

Governor Crothers went into office possessing but little favor of the newspapers, and was looked upon by a great many people with a more or less critical eye, but he went out with universal applause and approbation. In an editorial at the close of his administration, the Baltimore *Sun* said of him this: "A real friend of good government. A practical worker. A man of rare common sense. A sincere patriot." More than this can scarcely be said of any man, and this was said when there was no favor to curry. It then said: "When the record of his administration has been finally written it will be found that not least of the things for which the people of Maryland have to thank this very remarkable son of Cecil County is the part he played in the movement to take away the control of his party from the traitors who corrupted while they tried to destroy it and to place that control in the hands of the majority of the party voters." The *Sun* of January 2, 1912, said: "It is a strong feature of Governor Crothers's character as a public man that he has always and consistently insisted upon keeping faith with the people. The party man who bolts his party platform, he has said, is more disloyal to his party than he who bolts his party ticket." January 1, 1912: "And not the least of his services has been the part he has played in giving meaning and vitality to the term 'Progressive Democrat' in this State." January 11, 1912: "He believes that offices were created for the public benefit and not for the benefit of the office-holder"; that "men will look back to his administration as to an epoch of achievement. . . . He has been in the performance of his official duties always approachable, always courteous, patient, forbearing, and painstaking, and in departing from the Government House he carries with him the thanks, the approbation, the good will, and the best wishes of the people of Maryland, for he has served them well."

One of his monumental works is that of the good roads movement. He has succeeded in awakening the people of Maryland to their full responsibility in reference to civic questions. He has placed Maryland in the forefront of progressive States, as far as legislation is concerned. He has made the best Governor that Maryland has ever had.

If you would be in any way at all interested in him I will be glad to provide you with a number of excerpts from both editorials and interviews, which would be of value to you in considering his worth and availability.

Trusting that you may see fit to look into his qualifications, I am, sir,

GEO. WASHINGTON WILLIAMS.

"ARISTOCRATIC"

HOLYOKE, MASS., *February 5, 1912.*

To the Editor of Harper's Weekly:

SIR,—In your comment of February 3d, you quote Mr. Bryan's statement, "There is an irrepressible conflict between aristocracy and democracy." The present acceptation of the word aristocracy is extremely vague and inexact. It is a pity, in this great country of the sovereign citizen, the literal interpretation of the word cannot be adhered to. The word is derived, I believe, from the Greek ἄριστος, meaning the best, and κρατέω, to rule—the rule of the best. In its precise sense this makes an ideal adjective to describe the genuine twentieth-century statesman. If the word culture is not synonymous with exclusiveness and riches, why should the word aristocrat have to be? There will, of course, be a wide variance of opinion as to who typifies the best citizenship: the affluent, autocratic, clannish money king, or the honest, industrious, intellectual, humble citizen? Surely, if we attach the proper meaning to the word, the Democratic party might claim as many, if not more real aristocrats than the Republican party. It is most certain Mr. Bryan would embody and personify the very essence of true aristocracy.

I am sir.

J. R. LEWIS.

THE "WEEKLY" AS SEEN BY READERS

KANKANNA, WIS., *February 10, 1912.*

To the Editor of Harper's Weekly:

SIR,—Was for a number of years a subscriber, but could not stand your political views. If you had good reasons, outside of personal ones, to oppose Theo. R—— that was your duty to do so, however your readers should be entitled to know them, and as for me I could never discover in the articles and slams on the Colonel wherein and wherefore this lambastering; however, the other good qualities of your paper still "held me," but when you supported Mr. Taft, a *protege* by the way of the Colonel, that was too much for me. Don't know your views on him now, but am sure you cannot consider him right. His reciprocity—P-a-p-e-r Deal—*For shame.*

I am sir,

F. F. B.

To the Editor of Harper's Weekly:

SIR,—I have no desire to see the *inside* or *outside* of the coming campaign from the HARPER'S view.

There *was* a time when HARPER'S was a paper that a self-respecting man, and a Republican, could take and read and derive pleasure and profit.

To-day none but a renegade could enjoy it. I would not have it in my house *at any price*. Have never had any use for a HARPER'S since the Blaine campaign.

I am sir,

C. G. H.

ST. LEONARDS, MD., *February 14, 1912.*

To the Editor of Harper's Weekly:

SIR,—I greatly enjoy your comments on Theodore Roosevelt and William J. Bryan. As an old-time Democrat, I think the American people would be fortunate to hear the last of two of the most egotistical men of the age.

With admiration for the editor and HARPER'S WEEKLY, I am, sir,

JOHN THOMAS BOND.

MR. OLIVER'S STORY

CHICAGO, ILL., *February 4, 1912.*

To the Editor of Harper's Weekly:

SIR,—I have been enjoying HARPER'S WEEKLY with its keen analysis of men and affairs for a long while. It is like the bread of life to a soul hungry for true, outspoken words. The Harveyism of its expressions is what has charmed me. This morning, however, I find a new charm in the February 3d issue in the clever story of Owen Oliver, entitled, "The Feud at Ballyborrow." Can he give us some more as bright and charming? I have two serving-women in my household—County Cavan girls (sisters) who have been with us upward of thirty years. I read them this story this morning. The wit and naturalness of the description shows Oliver to be a gifted writer. The hearty appreciation by these young women is an evidence.

I am, sir,

ELIJAH S. FAIRCHILD.

Authorized Interviews

I MET T. R. upon the street,
And cordial was his greeting.
And I—I thought it only meet
To profit by the meeting.
"T. R.," said I, "I prithee state
Are you or not a candidate?
It may be I shall die to-day
And ere I pass along my way
I'd like to know, so prithee say."
And with a twinkle in his eye
The gallant T. R. made reply:

"The gnat is neither fish nor bird,
As doubtless you've already heard.
Like to the eagle he hath wings,
But differs greatly when he sings.
He's also different from the whale,
But like the codfish sports a tail.
He roams the forest like the bear,
But like some men hath little hair—
By which 'tis clearly proven that
A unique creature is the gnat."

I thanked my friend in phrases couth
And went my pathway cheery,
Relieved to know at last the truth
In answer to my query.

Next day while on vacation bent
Somewhere out in Wyoming,
I met our honored President,
A-casually roaming.
I greeted him. He greeted me.
It was a greeting fair to see.
"Your Excellence," said I anon,
"What terms are you and Teddy on?"
His smile was, oh, so sweet and wan,
So mournful and withal so wide,
As to my question he replied:

"The Panama Canal," said he,
"Is neither ditch nor inland sea,
And though 'tis full of water cool
You could not call the thing a pool.
'Twould likewise be a great mistake
To call it either brook or lake.
'Tis not a river, either, nor,
Though it hath locks, a bureau drawer.
Its parentage is much in doubt,
Though far indeed, as I make out,
Its rippling length from bar to bar
Acknowledges nor Pa—na—Ma."

I knelt and kissed his honored foot,
My heart no longer gloomy,
His answer clear, and frankly put,
Was so convincing to me.

HORACE DODD GASTIT.

What's Wrong with Aviation?

By Albert S. LeVino

This is the first of three articles dealing with the development of the aeroplane and its commercial possibilities. The others will appear in early issues of "Harper's Weekly"

ALTHOUGH aviation has given us some wonderful inventors and many equally marvelous acrobats, it has yet to produce a great commercial mind. Successful designers and workers along conventional lines there have been and are in plenty. We have airmen whose exploits seem truly astounding until one remembers, in more sober mind, that it is the machine, not the man, that flies. The layman has been encouraged to believe that the chief problem of aviation is technical, but a truer diagnosis indicates that the problem is commercial.

Mechanically, the aeroplane has made swifter strides in its brief tenure of life than any other means of locomotion did in twice the time. Commercially, the American aeroplane industry is not one bit better off to-day than it was three years ago. Several causes contribute to this result:

1. Too much exhibition business, which has over-exploited the novelty of the aeroplane and failed to establish its practical value.

2. Too much publicity, with too many promises impossible of fulfilment.

3. The obsessing desire for quick profits rather than steady, normal returns.

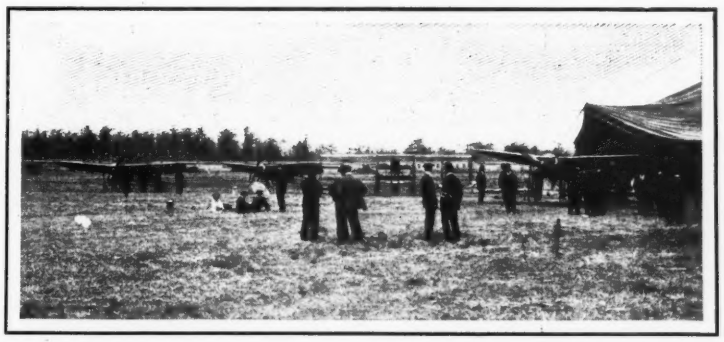
4. Failure to develop cheap but efficient and reliable power plants.

5. Too many aeroplane manufacturers.

6. Above all, no development of markets.

Crowds ever flock to the most dangerous turns of an automobile race. Attention is always riveted on the "dip of death" in a circus rather than on a cleverly trained animal. Robert Fulton's *Clermont* once crowded the Hudson's banks and Stevenson's *Rocket* brought thousands to stare, deprecate, or wonder. Only ten years have passed since a feature of Buffalo Bill's show was a "horseless carriage." We are all looking for thrills. But, once this appetite is satisfied, it is almost impossible to arouse scientific or commercial interest in the thriller unless its performances have demonstrated the practicability of the device, unless they have created a demand for it and made it an urgent necessity.

Aeroplane exhibitions once provided remunerative thrills. But people quickly learned that as the number of airmen increased the number of bad accidents decreased; that manufacturers were exploiting merely the novelty and not the usefulness of their product; and that they could witness flights from outside the fence quite as well as if they paid a dollar to enter the aerodrome. Thereupon they began to look elsewhere than to the aeroplane for their amusement. Aeroplanes became too common to lead people even to turn their heads to look at them, let alone pay to see them. The price of passenger flights fell in twelve short months from $500 for five minutes to $25, $10, and even $5. Satiety had overtaken curiosity. The wonder of one year had become the commonplace of the next.



Part of the expensive equipment needed for giving an aeroplane exhibition

Unfortunately for the honest manufacturer, he soon had to cope with a factor even more discouraging than public apathy. The dishonest element that attaches itself to every new industry did not fail to grasp the opportunity presented by the art of flying. Soon aviation was crowded with these irresponsible, get-rich-quick gentry. Exhibition flyers frequently left the ground only when they cared to, and then for such short flights as they cared to make. Alleged, self-styled aviators, incompetent in every respect, and with machines so badly constructed as to be dangerous to the spectators, cut to one-half or one-fourth the prices asked by good flyers. Outrageous promises, that ranged from the agreement to land on or start from any building in a city to the free carrying of passengers in machines which later proved unable to leave the ground with only the pilot aboard, were frequent.

Here is a comment made by President W. Linford Smith of the Pittsburg Aero Club:

"I favored disarmament with the coming of aeroplanes until I heard and saw at Brunot Island just how much trouble a capful of wind makes for these flying-machines. I now suggest that the only defense needed by war-vessels from air-fleets will be electric fans."

Undoubtedly the reader, as he opened his morning newspaper, has read from time to time the announcement that "John Jones, the famous aviator, will to-day fly over the city" or "will start on a record-breaking cross-country journey" or "will fly to shore from the Hamburg-American liner *Potsdam*, leaving the vessel's deck after she has passed forty miles out to sea." Thereafter nothing more has been heard of John Jones's promised flight. This has happened so frequently, there has been such a discrepancy between promise and performance by an all-too-numerous type of aviator, that nowadays the public is placing aviation statements on the same plane as the "wolf, wolf" cry of the fabled shepherd.

Rene Simon making a steep bank around the dangerous course of the Chicago meet

It has long been the marvel of many who know the care with which newspapers are edited that space is so readily forthcoming for almost any kind of statement so long as it has the magic word "aviation" in it. The most nonsensical utterances of half-crazy inventors whose dicta showed they had not the first idea of even the rudiments of human flight; lengthy descriptions of revolutionary machines (which turned out to be abortive copies of standard types) built by some chauffeur or street-cleaner or shoemaker in barn, hayloft, or cellar; manifestly puerile statements regarding the future of the aeroplane, how it will drive both railroad train and steamship out of business—for these and similar absurdities there seems to be a three-hundred-and-sixty-five-day-long silly season against which not even the sanest city editor appears immune.

Conceive any normal man swallowing the yarn that the Pennsylvania railroad had a new locomotive that would haul a twelve-car train without stopping from Chicago to New York in ten hours! Yet is that half as stupid as the widely published statement made a few months ago by a well-known British airman, that "an aeroplane with a two-thousand-horse-power motor carrying 4,000 people will cross the Atlantic in fifteen hours"? Maybe some day a man will go to bed in New York and awaken in London; also, there may come a time when a man will retire on earth and dress on Mars, but newspapers do not print serious articles in anticipation of these events.

Frank Coffyn, the Wright pilot who has carried more passengers than any other aviator in the world, commented to the writer recently on the statement of a prominent American cross-country flyer that he was going to start across the Atlantic next August in a hydro-biplane with himself and mechanician as passengers and operators.

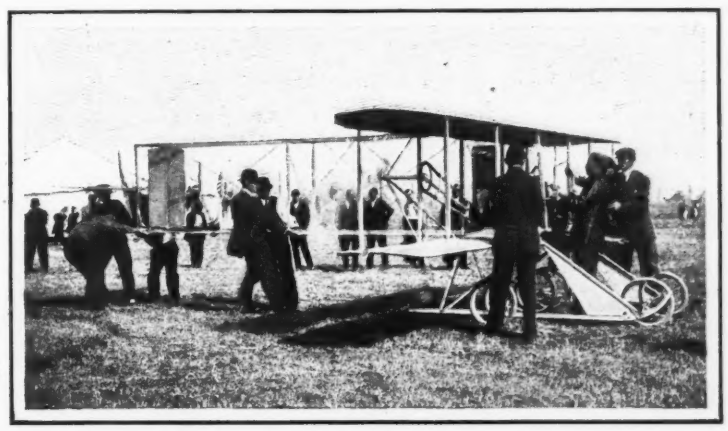
"He says he's going to take two hundred gallons of gasoline with him," said Mr. Coffyn. "There's a weight of 1,400 pounds to start with in fuel alone, not making any mention of lubricant, food, etc. And Bréguet, who managed last October to lift a total weight of about 1,400 pounds beside his machine, stayed aloft only five minutes! Possible to cross the Atlantic in an aeroplane very soon? Why, it's possible now—but only Heaven knows when it will be accomplished!"

It is on such publicity that many aviation stock companies are formed. Generous promoters have dropped mines and covered carpet-tacks for the more lucrative aeroplane. To-day the market is fairly flooded with $1, $5, and $10 shares of aviation stock, whose promoters offer anything from seven to fifty per cent. dividends. Rich as is the future of the flying machine, the aeroplane industry can no more support these get-rich-quick parasites than can any other business.

There is general recognition that the heart of the aeroplane is its motor. Yet, though the United States gave the flying-machine to the world and to-day manufactures more automobiles than all other countries put together, no American aeroplane-motor has yet been developed that compares in efficiency with a French engine. Every world's record, excepting only Loridan's duration flight, is to-day held by that foreign motor. But its cost, particularly with forty-five per cent. import duty added, practically prohibits its general use in this country. What a field there is here for our automobile manufacturers! There is an Aladdin fortune awaiting the man who delivers a dependable, efficient, economical fifty-horse-power aeroplane-engine, weighing not over three pounds per horse-power, for $1,000, or even $1,500. For the very best flying-machine built to-day can be produced for $500 except for its power plant. And it is in the manufacture and sale of a reliable aeroplane retailing at about $3,000 that the biggest dividends will be found.

There are now in the United States six aeroplane manufacturing concerns. Fewer than twenty aeroplanes were sold in this country in 1911 by all six companies. The Wright, Farman, Blériot, Nieuport, Bréguet, and Deperdussin firms are the only manufacturers who earned $25,000 clear last year. Suppose that the Wrights in this country or the Farmans in France—both tremendously wealthy concerns—were to cut the price of their machines to $3,000, what would happen to the other builders? The aeroplane has outstripped the industry. Its mechanism is far ahead of its commercial development.

The writer asked six men prominently identified with American aviation to give HARPER'S WEEKLY their ideas as to what was the matter commercially. Here is what they said:



The Wright brothers testing the "Baby Wright" racer

Wilbur Wright.—What my brother and I want to do is to conserve the business. What the average man, neither daredevil nor simpleton, can safely do with the aeroplane is the problem with which we are concerned. There is a splendid future for the flying-machine, but conservative and sound business methods must be invoked to develop and sustain the industry. To my mind miscellaneous exhibitions

and too much of the wrong kind of publicity are the chief troubles of aviation. No other industry would stand for these features. Aviation cannot.

Ernest L. Jones, editor of *Aeronautics*, the oldest American periodical in its field.—There are too many fakers in the business. The stock-selling crowd has scared away the conservative rich man who might back a well-run concern. There has been too little commercial development of the aeroplane and too much hip-hip-hurrah business. Including aeroplanes and accessories, not more than four American concerns are doing business on a sound scale and basis. The others have been too busy getting the easy money and letting future development take care of itself.

Frank Coffyn, leading passenger-carrying aviator.—Almost every ill to which aviation in this country has fallen heir is due to the exhibition end of the game and to the faking that has been done there and in publicity. It is curious, too, how much more national governments are bent on testing the merits of aeroplanes for war purposes than for trade or travel. Surely, if flying machines meet the exacting demands of military authorities as machines of destruction, they are certain to be a great deal more useful and far more numerous in the occupations of peace.

Robert Macfie, British aviator and specialist in commercial aviation.—Everybody in aeronautics seems to be thinking and talking hack stuff. Without looking to see where the markets are to come from, machines are being built in quantities out of all proportion to the demand. So far about the only business there has been in aviation has been exploiting the novelty of the aeroplane in exhibition or passenger-carrying work. Until a practical basis is found the business is shut up tight. The aeroplanes we build to-day are way ahead of their makers in performance and efficiency, for the machines have made good in all their tests.

Hugo Gibson, propeller manufacturer: The support aviation gets to-day is on the basis of unreasonable profits from spectacular and death-invoking antics. Aviation is a science and requires an army of scientific workers, not nerveless incompetents or high-strung scatterbrains. Business men are needed in aviation, more even than engineers. There is no finer or more exhilarating sport than flying. And in the hands of careful, conservative pilots, knowing the exact capacity of their machines, the present-day aeroplane is considerably safer than the public has been led to believe it was. Any normal man can learn how to fly in three weeks. But trying to loop the loop, ego-born steep dives and volplanes, the Dutch roll, excessive banking, spiral end-on turns, racing around one, two, or even five mile tracks, etc., are not the functions of the flying-machine; and performing any or all of these "stunts" avails nothing in giving us the commercial aeroplane which may be relied upon as is the automobile to-day for pleasure and for trade.

The aeroplane has a future that neither expert nor lay mind can define. The serious, practical side of flying is an almost unknown quantity, because aviation has so far been mostly circus "stunts." Shorn of these features—and the end of exhibitions and meets is fortunately now in sight—the aeroplane will come into its own.

Making Rain While the Sun Shines

By C. W. Post

PLUTARCH comments upon the belief cherished by the ancients that the battle-cries of the Greeks and Persians ascended so violently to the heavens that the elements were shaken and rain fell, as if the tremors arising from the battlefield had shattered the clouds and precipitated their moisture.

Napoleon is credited with having observed that rain followed battles in which the play of musketry and cannonading was heavy, and it is said that he took advantage of this phenomenon in planning the movements of his armies upon the eve of any engagement.

The battles of the campaign which terminated in the capture of the City of Mexico by the United States troops are said to have resulted in the termination of a very severe drouth in Mexico.

It is a fact frequently referred to by writers that the principal battles of the late Civil War were followed by rains, the precipitation in practically every instance varying in proportion to the violence of the engagement. A statistician, after extensive research, announced a few years ago that one hundred and ninety-six battles of the Civil War were followed by rain, and he stated that the imperfection of the military records alone precluded the addition of many more engagements to this long list.

Newspaper records kept by a Chicago publication, covering a period of twenty-three years, show that eighteen Fourth-of-July celebrations during that period were followed by rain, induced, it is averred, by the atmospheric agitation caused by the explosion of fireworks. This theory is given strength by the further observation that for the three years during which the Safe-and-Sane-Fourth idea has prevailed there have been no fireworks celebrations, and no rains have followed the quiet observance of Independence Day.

An exhaustive study of these facts and years of research convinced me that the theory of artificial rain-making is not the mere chimera that some scientifically inclined men would have us believe. The theory is not new. Several decades ago, a New-Zealander evolved a theory of producing rain and his process was patented. In the early seventies a Virginian promulgated a similar process of rain-making which was patented in the United States. His plan was to produce rain by repeated discharges of heavy artillery, and he spent many years trying to secure Federal support for his scheme, but the cost of the project was so great that Congress declined to undertake its financing. A little later another scheme was devised. This was to inflate balloons with explosive gases and allow them to float upward into the strata of saturated cloud, where they were to be exploded.

In 1890, Congress appropriated $9,000 for the purpose of financing experiments in rain-making. General J. G. Dyrenforth, a well-known scientist and meteorologist, was chosen to conduct these experiments. General Dyrenforth and a number of assistants and helpers went to a ranch near Midland, Texas, in the summer of 1891, and there, in a semi-arid region, during a period of drouth, conducted three formal experiments. Three kinds of explosives were used in these tests: ground charges of dynamite and powder; a line of dynamite cartridges attached to captive kites; and, in an altitude still higher, a line of self-exploding balloons, charged with a combination of oxygen and hydrogen gases.

General Dyrenforth in his reports to Congress and in magazine articles commented upon the success of these three experiments near Midland, declaring that for these three experiments he was rewarded with three heavy rains and nine incidental showers, covering a period of sixteen days. This is far in excess of the ordinary rainfall in that section of Texas, and, coming so rapidly upon the heels of these experiments, left no doubt in the minds of General Dyrenforth and his associates that the rains were caused by the explosions.

Following the experiments of General Dyrenforth, which were concluded, perforce, when the meager appropriation was exhausted, the world, generally, seems to have forgotten that rain could be produced artificially, for between 1891 and the spring of 1911, when I conducted my first experiments on my ranch of 200,000 acres outlying Post City (Garza County), Texas, I can find no record of anything more than sporadic attempts upon a very small scale to produce rain.

I did not undertake the task of rain-making as a disciple of science, but because the crops on the ranch needed rain and needed it badly. Three years ago I "broke out" about 6,000 acres of the ranch into some 35 farms. The land is level and a rich loam, but the annual rainfall is only about 21 or 22 inches. If this amount of rain came in 21 showers of one inch each, say, at the times needed, the crops would be magnificent, but unfortunately that is not the habit of Nature, for rain falls in winter in extravagant volume, and frequent showers in the early spring encourage the crops to grow luxuriantly up to late June or early July, when fickle Nature may forget to send rain for a month or six weeks and allow the crops to die.

In the spring of 1911 crops on the ranch began to need rain. There were no signs of nature that pointed to any immediate conclusion of the drouth. There was no method by which I could run irrigation ditches in time to alleviate conditions. It was under the stress of these conditions that I resolved to carry the war into the country of Jupiter Pluvius and bombard him until he surrendered enough rain to save the crops.

Late in June I made my first attack upon the elements. My men arranged eight firing stations, in almost a straight line, an eighth of a mile apart, making a firing line of one mile. One hundred and twenty-five shots of two pounds of dynamite apiece were fired from each of these eight stations. Nothing came of this first "battle"—due, probably, to the fact that we had paid little attention to the atmospheric conditions and had conducted the initial experiment when none of the natural indications of rain was present.

Inside of a week after our first experiment we chose a day that seemed more propitious for the second attack. The barometer on the morning of the "battle" indicated an extensive degree of humidity, but there were no clouds overhead, and the sun shone down, hot and steadily, as it does upon the plains of the southwest. The second "battle" was upon a larger scale than the first. We made use of the initial eight stations of the first firing line, but doubled the dose—that is, we used 250 two-pound shots from each battery, continuing the firing throughout an afternoon. Rain followed within ten or twelve hours after the firing had ceased, whereupon a rainy period set in, extending from July 1st to July 10th, with rains occurring at intervals of two or three days. The rain was not general over Texas or even over the section of the State in which my ranch is situated. It can best be described by the meteorological definition "local showers," and, in the minds of those who witnessed the experiments, was attributable solely to the fusilade we had directed at the heavens.

The crops then prospered until late in August, the occasional showers being sufficient to keep the cotton from "burning" under the fierce rays of the summer sun. On August 23d, when the crops were sadly wilted from a drouth of a month and thirteen days, another "battle" was conducted, this time from fifteen stations extending over a line of two miles. Fifteen hundred explosions, one hundred from each station, was the extent of the bombardment.

When the firing began, thin, cirrus clouds were apparent in the sky. An hour after the opening of the battle, thick, cumulus clouds had gathered overhead, and within two hours rain began to fall. The last half-hour of firing was conducted in the rain, and when the "cease firing" order had been given the whole countryside was being drenched by one of the heaviest rains of the season, which continued through the night and well up into the afternoon of the next day. This heavy rain, coming at a time of great need, unquestionably insured the ripening of crops, resulting in a harvest, on my ranch alone, of about six hundred bales of cotton and many thousand bushels of kaffir corn and milo maize, besides several cars of peanuts and a fine growth of grass for the thousands of cattle on the ranch.

On October 24th, after the fall drouth had set in, I announced plans for a "battle" on October 26th. The farm managers demurred, saying that there were many bales of hay and wagons of cotton exposed in the fields. Instructions were given to get all exposed hay and cotton under cover in preparation for the impending fight with Jupiter.

The sky on the morning of October 26th was cloudless, but the instruments indicated great humidity, and, two hours before the firing began, thin, feathery clouds began to appear. At 2.05 P.M. the firing began, and very shortly little black, round clouds began to form overhead and fade away into the upper strata. More clouds formed and the sky became threatening. We ceased firing about five o'clock, without any rain having fallen, but at 10.04 o'clock that evening the drops began to fall and it rained all night and part of the next day. There was no need for this rain except to improve general range conditions; it was "shot" merely to demonstrate to our own satisfaction that our plan of artificial rain-making was correct.

Inquiry developed that this last rain extended over about 400,000 acres of land. If one is justified in the conclusion that the "battle" wet this area, the cost was one-fourth of one cent per acre, for the battle cost approximately $1,000.

It is entirely clear to those who have watched the experiments at Post City that this form of watering crops is infinitely cheaper than any known irrigation scheme with the heavy cost of installation and the annual tax and upkeep of the system.

It is my intention to continue making rain on a practical line during the succeeding years. My plans include at least eight "battles" annually upon the ranch, when the precipitation is most needed. The expense is to be a part of the annual appropriation for the operation of the farm, just as irrigation expenses must be considered in the cost of farming in a dry country.

There are plenty of skeptics, even in Texas, who decline to attribute the rains at Post City to the dynamite "battles." Some of these even declare: "Post is a good guesser and picks out promising days for his experiments"; but this incredulity is not warranted. Every one familiar with Texas knows that on many days of each month the clouds hang heavy and thick, and to the tenderfoot a rain is in immediate prospect, and yet never a drop falls. The moisture is present in these rain clouds, but there is lacking the external energy to cause a precipitation of the moisture. In less level country, there is usually a forest range, or an obtruding mountain peak to disturb the uncertain equilibrium of the rain-soaked clouds. These natural methods of agitating the moistened banks of vapor are lacking in a level country. The dynamite explosions carry a violent upthrust of air that acts as a disturber of the vapor banks, and a rain naturally ensues.

It is not my contention that single dynamite explosions will produce rain, but that many explosions take the place of a missing natural cause—missing because of topographical and geographical conditions—and that rain falls as a matter of course, while, if this unstable equilibrium of moisture-soaked clouds were not disturbed, they would be carried upward and away without having deposited the moisture so urgently needed for the crops.

I am not a pioneer in this line except in so far as I have adapted an old theory to the actual needs of farming. I am not so much interested in the scientific as the practical side. I am more engrossed in the results than the method.

To my mind it seems clear that artificial rain-making by means of dynamite explosions will prove eventually a complete substitute for irrigation as a method of giving crops the needed moisture at the proper time. When this plan becomes generally practised it is bound to revolutionize farming in the arid and semi-arid regions of the world. It will make the southwestern section of the United States the choicest farming region on the face of the earth. The possibilities of this plan are limitless.

In Memoriam

SPIRIT of singing winds among the hills,
Courage of soul aflame from mountain-tip,
Wafting your fragrance of the pure in heart
In quality of gentleness and truth,
Shall thy free spirit answer clarion call?
Symbol of mystery—a myrtle wreath.
Has God not made humanity to weep
And listen?—"Thou art highly favored—Hail!"
Thus thy soul's labor is accounted good.
Out through the darkness bursts the glimmering dawn.
The choir celestial unto Nature chants,
"Reality is life, which follows death,
The victory. 'Tis well. Let there be peace!"

FRANCES T. ORDWAY.

The Bugbear of "Paternalism"

By A. Maurice Low

WASHINGTON CORRESPONDENT FOR "HARPER'S WEEKLY"

TO a great many well meaning but timid souls Paternalism is a word of dread import. It has a sound almost as sinister as that of socialism or communism; for a government to become paternal is to take the first step on the broad path and easy path that leads to destruction. More than one great reform has been checked and more than one useful measure has been defeated by the cry of paternalism raised against it. It was the stone in the legislative sling.

If the real function of government is to do the greatest good to the greatest number the more paternal it is the more it reaches its ideal; but without regard to whether governments ought or ought not to be paternal, the fact remains that all governments are to-day paternal, and the United States forms no exception. I use the term in its ordinary meaning.

The altered view of the relation between the state and the citizen is nowhere more striking than in this country. A decade or so ago that relation would have been impossible, and three schools of thought, each actuated by a different motive, combined to resist it. There were the persons who made individualism a fetish and believed that anything done by the state that could be done by the individual was destructive to character and weakened initiative. It was like indiscriminate charity, which, instead of succoring the worthy, pauperized the improvident. There were the persons whose political training would not permit them to concede the right of the national government to do what the individual States might undertake if they saw fit, and as the States were either indifferent or opposed nothing was done. And, finally, there were the people who believed in the policy of *laissez faire* and the doctrine that the best-governed state is the least-governed state, and that the only justification for the existence of government is to collect the revenues and cause the laws to be respected. This combined opposition was too powerful to be overcome, and the United States was the least paternal of all governments, even although it was held by Free-traders to be the most paternal of all because of its adherence to Protection.

Whether the world advances or not—and there are some persons who take an intellectual delight in trying to prove that it stands still—it undeniably moves, and always in one direction. *Laissez faire*, at one time the refinement of political philosophy, has been thrown into the ash heap with other outworn political theories. It is no longer fashionable, nor is it profitable, for statesmen to regard the state as nothing more than a magnified policeman. At one time the state was as cold-blooded as a jelly-fish. Now it has heart as well as brains. Something more than the muscle of the policeman is needed.

In no country is this change so strikingly seen as in the United States. For many years the United States lagged behind Europe in humanitarian legislation. England took the lead in safeguarding her workers and regulating the conditions under which they labored; philanthropic as well as economic motives influenced legislators, for the men to whom humanity meant more than wealth saw also that the cost to produce wealth was too great. There was a time when labor was looked upon as simply so much raw material that could always be replaced when a fresh supply was needed, and naturally no question of sentiment entered into the relations between capital and labor. Once it was realized that it was cheaper to conserve labor than to destroy it, there was no return to the old system. From prohibiting the working of women in coal mines to old-age pensions and national insurance and sick-benefits is a tremendous stride, but it shows how far humanity has traveled in its efforts to alleviate the conditions of the toilers.

The United States has gone slowly along the same road, but the pace is increasing every year. The obligation of employers to compensate their employees for injuries received in the line of duty was bitterly resisted, for it was held to be an interference with the freedom of contract and paternalism run mad; as a last defense it was said to be unconstitutional; and the Constitution, like patriotism, is too often the refuge of the dishonest. Yet this was legislation that had long been in force in Europe. Workmen's compensation, old-age pensions, national insurance, and other laws of the same kind have yet to come in the United States; but making eight hours a day's labor for all work done under government contract shows the trend of legislation. Perhaps even more significant is a joint resolution recently offered by Representative McCall, of Massachusetts, proposing an amendment to the Constitution, giving to Congress the power to pass laws regulating the hours of labor throughout the United States. There is, of course, no prospect that this article will be incorporated in the Constitution in the immediate future, but it is a straw showing the direction of the wind.

The House a few days ago passed a bill creating a bureau in the Department of Commerce and Labor, to be known as the Children's Bureau. The functions of the bureau are to investigate and report upon all matters pertaining to the welfare of children and child life, especially to investigate the questions of infant mortality, the birth-rate, physical degeneracy, orphanage, juvenile courts, desertion, dangerous occupations, accidents and diseases of children, employment, legislation affecting children in the several States and Territories, and such other facts as have a bearing upon the welfare of children. No doubt a great many persons will say that this is the bill of a faddist, that it puts another spigot in the treasury, and that the chief beneficiaries of this bill, if it becomes a law, will be not the children, but the men who go on the pay-roll and the doctrinaires who see a chance to ventilate their theories at the government expense. Extreme State-rights men will ask what right has the Federal government to investigate "legislation affecting children in the several States," as the government has no power over the legislation of the States; and declare that the other facts which the bureau is to obtain can be equally as well procured through existing agencies of the government.

In the course of a hearing given on the bill by the House Committee on Labor, the Director of the Census said: "The Census Office is a purely statistical office. Its function is to collect cold-blooded facts and analyze and interpret them, and leave to the public at large the duty of drawing the ethical or moral or industrial conclusions which these facts convey. I feel very strongly that if any legislation is enacted which in any way modifies the function of the Census Office in that regard it will be highly detrimental to the work of the office. We do not want to divert our energies into studies of physical degeneracy, of orphanage, of juvenile delinquency and juvenile courts, and all that class of questions, which are not statistical questions." The Commissioner of Labor told the committee that he did not believe the work proposed to be done by the Children's Bureau was in any sense a duplication of the work done by his bureau, and that it would be handled in a different way. To the direct question of a member of the committee, "You believe, then, the most practical thing and the most advisable thing is to establish a bureau?" the Director replied:

"Unquestionably. . . . I do not believe, if the government is going to spend money at all in this particular line, that it will be economical or that we shall get the best results if it attempts simply to make use to a limited extent of existing organizations, no one of which, so far as I know, is equipped or could equip itself without somewhat departing from its proper line of work, to study these things as thoroughly and as fundamentally as they ought to be studied."

The Commissioner of the Bureau of Education also gave his support to the bill. "We cannot deal properly," he said, "with the large questions of the education of children without a more detailed and accurate knowledge than we now possess as to the actual conditions surrounding the child life of the country. I think the best way to accomplish this end is by the passage of such a bill as this and the establishment of a separate bureau." In the report of the committee recommending the passage of the bill this language is used: "The Children's Bureau should be an authoritative source of information, to the end that human life and health be preserved and human misery decreased. It seems to us no more inconsistent with the principles of this government that we should be able to send out bulletins concerning the problems of childhood than that we should send out such bulletins concerning the care of fish or of hogs or of cattle, concerning the preservation of fruit-trees, or the treatment of the soil."

It is interesting to note here that the majority of the committee that made this report is composed of Democrats and that four of them are Southern men, who did not dissent from the conclusions reached. What an extraordinary change compared with Southern and Democratic conception of a few years ago of the legitimate functions of the Federal government! It may be recalled that at the time of the Texas floods, in Mr. Cleveland's administration, the War Department proposed to lend tents and furnish rations to the sufferers as an emergency measure. Southern members of Congress opposed this, and they took the ground that the duty of succoring the distressed was imposed upon the government of Texas and not the government at Washington. It is safe to say that no member of Congress, whether from the South or North, whether Republican, Democrat, Laborite, or Socialist, would to-day interpose any objection to the offer of Federal assistance should an emergency require it; and few would suggest that work be done by the States when the Federal government was willing to undertake that work and could do it better than the separate States.

In support of the appropriation of $29,000 required to establish the Children's Bureau, the committee was informed that last year an appropriation of $23,000 was made for the investigation of plant diseases of cotton, truck, and forage crops, $26,000 for the investigation and improvement of tobacco and methods of production, $42,000 for the control of diseases of orchards and other fruits, $47,000 for experiments and investigations in animal husbandry, $250,000 for the eradication of Southern cattle-ticks. All told, the government appropriated last year $1,654,000 for the Bureau of Animal Industry and $2,000,000 for the Bureau of Plant Industry.

The government has always been a great deal more solicitous about improving the breed of its cattle than it has been concerned about human breeding or decreasing mortality. Miss Lillian D. Wald, head worker of the Henry Street Settlement of New York, in advocating the passage of the bill, said to the committee:

"It is most significant that some years ago, when I came to Washington to speak for this measure, the boll weevil had appeared in the South and quite rapidly had alarmed the people who were responsible for the elimination of such dangers. And yet nothing that could have happened to the children of the country—no excessive infant mortality; no evidence of illegitimacy, illiteracy, delinquency—nothing that could have happened to the children would have called forth any inquiry from the government to find out what was at the bottom of it. There is not a farmer in the whole United States but has the power and privilege of sending to Washington, if he is anxious about his crops or his hogs or his cattle. There is not a deposit discovered in any of the mines that the owners or the workmen may not have the privilege of finding out all about by sending here for a test to be made of the deposit. There is nothing that affects the grossly material interests of the country that the government does not concern itself about; and yet, so far as the children are concerned, every community is dependent upon the accident of having some interested citizen who will be public spirited and go to the trouble to write all over the country to discover what has been developed. It would conserve the forces and the strength of all these good people if they knew that there was some central body that could pass upon these problems, either say that such-and-such information has been discarded or say that it has been valuable here and there."

Miss Wald also said: "One-fourth of all the children in the country who are blind need not have been blind," she said. "A very simple injection in the eyes at birth would prevent the blindness of one-fourth of the blind."

Mrs. Florence Kelly, secretary of the National Consumers' League, told the committee that in Portland, Oregon, in 1909, one-half the children born in August died in the same month and in Los Angeles 610 children of tender age died within the year. In both cases the excessive mortality was attributed to impure milk, and Mrs. Kelly suggested that the municipal authorities write to the New York Milk Committee, with the result that the mortality was heavily reduced. The city of Portland, she said, ought not to have had to depend for the information upon a passing traveler or a committee in New York, but should have been able to obtain authoritative information in Washington.

Mrs. Kelly told the committee that she owned a small farm in Maine on which is a little clam flat of not much value because the clams have all died out. The farm was once covered with pines, but they have been cut down.

While she was on her farm last summer she happened to notice in a newspaper that two circulars had been issued by the Department of Agriculture, one dealing with the refilling of defunct clam flats and the other calling attention to the fact that the seed of white-pine trees, if gathered that summer, would be worth two dollars a pound to be sold to persons who wanted to replant their abandoned farms. "Now it may be paternalism," she whimsically added, "to have a bureau to give information to the city of Portland and the city of Los Angeles about infant mortality and its relation to foul milk, but why should the Federal government be a little father to my clam flat and to my pine forest if it is not suitable for it to look after the children?"

The United States, in common with all other countries, is spending millions and millions every year in the attempt to stamp out tuberculosis and to support tuberculous sufferers, yet the bulk of this money is wasted because the attempt is made to cure instead of to prevent. It is extremely doubtful whether tuberculosis that has taken a firm hold is curable, but that it can be prevented is generally believed, and the high death-rate of the tubercular is among young girls and boys under twenty. Perhaps no more important work could be done by the bureau than to ascertain if it is not possible to prevent the spread of tuberculosis by scientific and constant examination of children of school age, so as to detect in their incipiency any signs of the disease and to take steps at once for effecting the cure, instead of, as now, waiting until it has taken such a firm hold on its victim that a cure is impossible because the resistance of the patient has been broken down. Tuberculosis is such an insidious disease that it does not reveal itself until the mischief is done, and only periodical examinations reveal the danger.

There is no doubt that thousands of lives yearly sacrificed to tuberculosis could be saved if the proper measures had been taken at the beginning. There is also a wide and valuable field for inquiry in the connection, if any, between tuberculosis and our present system of "forced-draught education." Are children the victims of tuberculosis because the strenuous life begins in the schoolroom? In other words, are they forced beyond their strength and their vital forces so heavily taxed that in the efforts to feed their minds their bodies are starved? In the attempt to put a sound mind in a sound body, is the body broken down by the very means taken to build it up—that is, atheletics and gymnastics, which are as much a part of the curriculum as arithmetic and spelling? Do football and baseball and running and rowing take too much out of the boy and girl and make them too weak to throw off sickness? There is a great deal that a properly equipped bureau might do that would be of enormous value even although in the doing it would risk the charge of "paternalism."

Germany in Transition

SOME PROBLEMS WHICH MUST BE SOLVED BY THE KAISER'S LAWMAKERS

By Sydney Brooks

LONDON CORRESPONDENT FOR "HARPER'S WEEKLY"

THE meeting of the new Reichstag opens up a complex and difficult era in Germany's internal development. The recent elections had one astounding feature; they justified the prophets. In and out of Germany every one had predicted a great increase in the Social Democratic vote as one of the results of the polls. The expectation was handsomely fulfilled; from the very first the tide ran strongly in favor of Herr Bebel's followers; all parties paid tribute to the onrush of Social Democracy either in loss of seats or in greatly diminished majorities; and the second ballots upheld and confirmed the results of the first.

In Germany, if no candidate gains a clear majority of the votes cast, another poll is taken a fortnight or so after the first, and the two candidates who received the highest number of votes at the initial trial of strength are then pitted squarely against each other. This is an arrangement that lends itself to infinite electoral surprises and combinations. Half a dozen parties and more may each run candidates for the first election, but at the second they have to choose between two only; and the consequent bargains and deals and tactical accommodations and cross-voting lead frequently to bewildering and paradoxical results. It is never safe to treat a German election as over until the issue of the second ballot is declared. But in this case the maneuvers and alliances of the various parties opposed to them proved powerless to reverse the run of Social Democratic victories. All other groups lost on the event from two to over thirty seats; the Social Democrats gained 57. In the new Reichstag, for the first time in German history, they are the strongest party, holding 110 seats while their nearest rivals, the Clericals, hold only 93—and this in spite of an antiquated electoral system which favors the rural districts at the expense of the towns and makes the Social Democratic representation in the Reichstag absurdly disproportionate to the Social Democratic vote at the polls. With some four and a quarter million votes to their credit, the Social Democrats, if the dice were not loaded against them, would have at least seventy more votes in the Reichstag than they actually possess. Even as things are, however, their success has brought about an extremely interesting situation, in which there is no clear government majority of any kind and in which apparently the National Liberals, who nominally belong to the Left, but usually vote with the Right, hold the balance of power. Whatever else the new Reichstag may do or may not do, it will at least test the Chancellor's dexterity as a parliamentarian to the uttermost.

What light did the recent elections throw, what influence are they likely to exert, on the three fundamental issues with which the German people are confronted? Looked at broadly, Germany is seen to be trying to solve three distinct but intimately related problems. The first is to become a great naval and imperial power. The second is to adjust her domestic policy to the fact that every year finds her passing more and more decidedly from a mainly agricultural to a mainly industrial state. The third is to establish a working compromise between universal suffrage on the one hand and the fact of semi-autocratic, semi-bureaucratic rulership on the other. Of these three problems the first may be said to be in a fair way to solution. That is to say, all Germany and all the responsible and effective parties in Germany have now set the seal of national approval upon the policy of Imperialism in all its many forms. In the days of the Bülow *bloc* it was seen that the Radicals supported a big navy, an overpowering army, and colonial expansion as heartily as the Conservatives or the National Liberals or the Kaiser himself. The Social Democrats alone consistently oppose the gospel of Imperialism, denounce the growing naval estimates, and advocate a national militia instead of a standing army; but their opposition is largely a matter of form and accident, expresses no real conviction in the minds of their followers, and will never in any circumstances be strong enough to restrain the deep-seated instinct toward naval, colonial, and commercial empire. In the new Reichstag German foreign policy will continue to be what it has been, and German armaments will go on increasing, without the smallest reference to the prodigious vote polled by the Social Democrats. It will indeed be an instructive object-lesson in the realities of the German system to find the new Reichstag, in which the Social Democrats are more powerful than ever before, proceeding as its first business to vote a new navy bill and two new army corps. These are projects long since determined upon by the government and they will be inflexibly carried out. The Social Democrats will of course oppose them, but their opposition will be utterly unavailing. Even if it were otherwise, even if the Social Democrats were able to block the official programme, the result would be merely postponement, not defeat. The Government would at once order another election, rally all parties against the Social Democrats on the "patriotic" issue, and persevere until it had obtained a majority favorable to its purposes. Until the inevitable, but for many years to come the impossible, transformation of the Social Democrats from a party of revolution into a party of advanced reform, they can never, whatever their strength in the Reichstag, be accepted by the Government as its allies and agents. They must always be in opposition, and their power will invariably be broken when it is ranged against the measures that the Government and the people consider essential to Germany's greatness and security. It is therefore a safe prophecy that the new Reichstag or its successor will vote as many ships and men as the Government sees fit to ask for, and that the Wilhelmstrasse will pay even less heed to the Social Democrats than Downing Street pays to the British Labor Party, or Secretary Knox to Mr. Gompers.

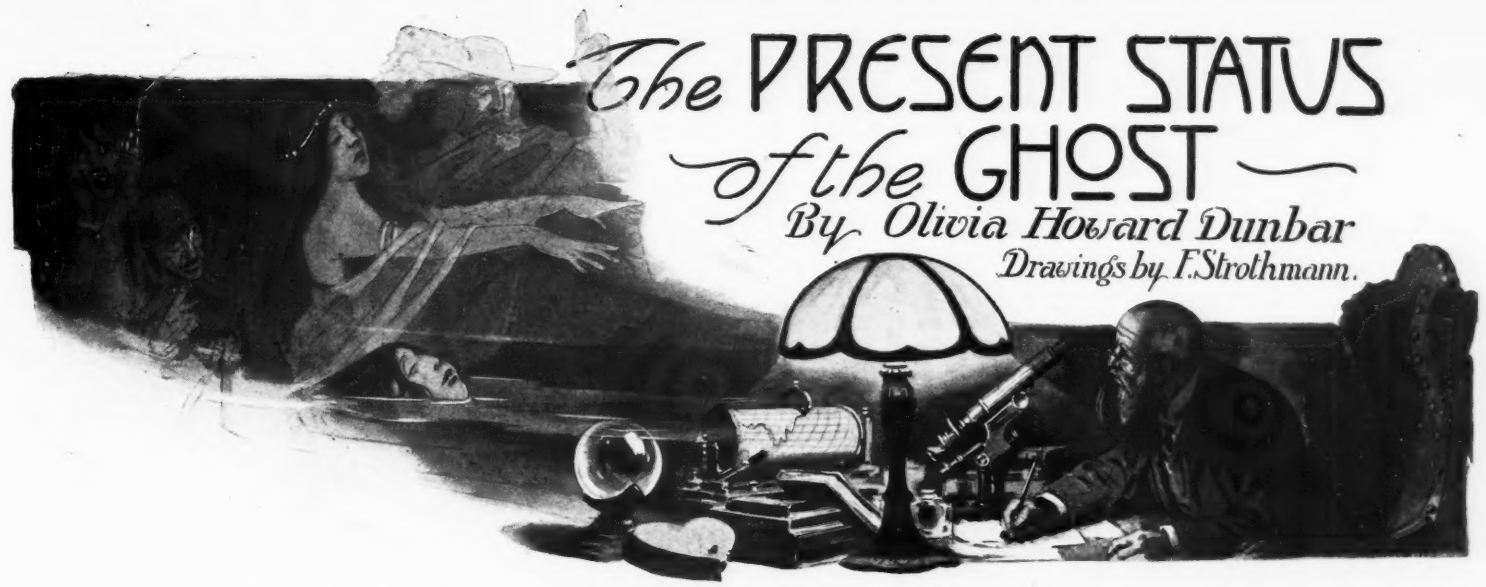
The second of the three problems I have mentioned—that of devising an equitable political and economic balance between the interests of industry and of agriculture—is one that grows in contentiousness with every year that passes. It is nearly twenty years since Caprivi declared that Germany was "no longer an agricultural but an industrial state." The fact was scarcely arguable even then; it is indisputable now; and with her increasing population, her growing dependence upon foreign food supplies, and her vast expansion of manufactures, it will soon be accepted by all Germany as axiomatic. But it is a fact which the organized obstinacy of the Agrarians has hitherto kept from any adequate translation into terms of politics. A new economic order has arisen, but the policy of the state has not yet been adjusted to it. Preponderantly industrial as she is, Germany is still for the most part ruled in the interests of agriculture; and to reduce the ascendancy of the Agrarians to legitimate proportions is one of the most anxious tasks that lie ahead of the country.

From 1879 till to-day it is the Agrarians who have really dictated the fiscal policy of the Empire. It was they who overthrew Caprivi. It was their Bourse law of 1896, forbidding all dealings in "futures" of whatever kind—a law modified in 1908 to permit of transactions in futures of mining and industrial stocks, but not in corn or mill products—that was for long one of the chief causes of the exodus of German capital, the high German bank rate, and the instability of the German money-market. Every commercial treaty they have fought and whittled down with all the weapons of political terrorism. It was their opposition that defeated the great schemes of canal development, just as it was their pressure that led to the restrictions upon the importation of live-stock, the premiums granted to sugar-producers, and the progressive increase of the corn duties. They have in short pursued their own interests with a total blindness to the interests of all other classes and with a success that will come to be looked back upon as one of the miracles of modern politics. The measure of German discontent, of class bitterness, and of the growth of Social Democracy is very largely the measure of Agrarian ascendancy. They have been able so far to hold their own and to impose their wishes on chancellor after chancellor because of the immense desirability in all countries, but in a military country especially, of keeping the peasantry on the soil; because of the many strong links of social and political sympathy that have always united the nobility and the Crown; and because the Conservatives and the Agrarians were for a long while the only, or at least the most conspicuous, advocates of naval and colonial expansion, they sought and achieved Protection through Imperialism; the tariff and the command of Germany's economic development were their stipulated reward for subscribing to *Weltpolitik*.

Now, however, that Imperialism has ceased to be a Tory and Agrarian monopoly, the struggle between the industrial and the land-owning interests is destined to take on a yet sharper intensity. It played a large and powerful rôle in the recent election. In 1909, it will be remembered, the Agrarians surpassed all their previous achievements by rejecting Prince Bülow's inheritance taxes and shifting the new burden of taxation on to the traders and the poor. The rise in the cost of living which has since followed, the revolt of the manufacturers, and the bitter resentment of the working classes against the new taxes, had an immense influence on the fortunes of the campaign; and were Germany less prodigal of political factions the dominant issue would undoubtedly have been a clear division of all parties into Right and Left over the fiscal issue. As it was, the multiplicity of groups and their mutual *intransigeance* prevented anything like a united attack on the Conservative-Clerical alliance—the "Blue-Black *bloc*." The Social Democrats, however, gained heavily by their championship of the poor against the rich, their advocacy of progressive taxation on all incomes and estates above the working-class limit, and their denunciations of class legislation; and their signal successes were very largely the expression of economic discontent. Unquestionably from now onwards we shall see a fierce and complex struggle for the control of Germany's economic future.

The last of the three fundamental problems of Imperial Germany was rather felt than confronted in the recent campaign. The German State is in gradual process of being liberalized, and every year sees a slightly more definite movement in the direction of giving the people an increasingly effective control over national and imperial policy. The masses are beginning to beat against the bars. They are asking for a share in the government commensurate with their numbers and intelligence. They are realizing that the ballot as an end in itself is insufficient; that, divorced from direct responsibility, it is little more than a national plaything; and that it affords no adequate security against the subjection of the State to the interests of a single class or against the capricious and hazardous policies of a semi-absolutism. They are working round to the conclusion that no Emperor, however patriotic, and no chancellor, however dexterous, can be quite so safe a guardian of the national interests as the nation itself. But whether Germany as a whole really desires to limit the prerogatives of the Crown, and to make the Reichstag responsible as well as representative, as the Social Democrats wish, is much more doubtful. My own belief is that though they may chafe at times under the present system, and are conscious of its absurdities, and wonder how much longer it can possibly last, any concrete proposal to modify it in any vital detail would encounter immense and, in all probability, decisive opposition.

Voters and partisans standing outside a polling-booth during the recent elections in Germany



The PRESENT STATUS of the GHOST

By Olivia Howard Dunbar

Drawings by F. Strothmann.

THE interval between the time when the ghost was referred to in whispers as a "pale shade," and that when it is coolly indexed as a "telepathic hallucination" has been prolonged and perilous. Nothing could have seemed more likely than that a being of such notoriously fragile tissue should have failed altogether to survive its various ordeals of neglect, scepticism, and, finally, determined investigation. For those, therefore, who have had, throughout, the courage of their credulity, there is profound satisfaction in the permanent scientific footing upon which the ghost may now be regarded as having placed itself.

When ghosts were in their heyday, mortal beings did their part in supplying suitable accessories. Isolated chambers and unlighted, draughty corridors were the accustomed setting. But such unambiguous additions to interior furnishing as electric lights and steam heat, beyond being a menace to apparitions in general, did away, one cannot but believe, with certain of the more sensitive and timid wraiths. The tendency in this country to tear down old dwellings and to remodel others, the craze for light and air and sanitation, must have been extremely prejudicial. The superficial enthusiasm for "science" involved a passionate, if ignorant, hostility to the unexplained. Indeed, there came a period when, because of these many discouraging influences, the ghost was probably in lower repute than at any time during the history of the world. Moreover, the widespread vogue of Spiritualism, both in this country and in England, had vulgarized the subject, inasmuch as the induced or manufactured ghost has never had the enthralling attributes of the spontaneous phenomenon, and belongs, of course, in an entirely different category. Spectres were, therefore, taboo in general conversation; and although the practice of "telling ghost stories" was still occasionally followed, these were always tagged with some unimaginative materialistic explanation, involving the blowing of a curtain or the rattling of a shutter. Those who really knew can scarcely have been affected by the prevailing scepticism, but they had their reputations for sanity to maintain and kept silent. Meanwhile, story-writers, faithfully reflecting the sentiment of their period, forebore mention of the phantasmal, or, where they failed to, publishers rigidly excluded material that they classed as obsolete.

But at that very moment the rehabilitation of the ghost was under way. The Society for Psychical Research in England had already begun its investigations, the fruit of which was to take shape as some of the most remarkable literature in the language; literature which now stands readily accessible to the perversely uninformed. Because of the personal distinction of this early group of ghost-hunters, which included, as everybody knows, Professor Sidgwick, Mr. Edmund Gurney, and the brilliant Mr. Frederic Myers, the subject to which they devoted their intelligence and energy ceased after a time to be considered something too vulgar and puerile for mention. With noiseless but unchallenged steps the ghost emerged from its soiling and obscuring influences, passed from discredited shadow into something that was almost substance, became authentic and respectable. Ghosts from every quarter of the United Kingdom, indeed from all over the world, found their way into excellently attested print. The loose, picturesque phrases of folklore gave way to a newly contrived scientific phraseology of a curiously fascinating character. Family and local spectres took on a fresh importance. The private cult of the ghost became almost a fashion and led in turn to such associated pastimes as crystal gazing and experiments in thought-transference; and even the much-ridiculed phenomenon of "table-tipping" was again seriously countenanced.

But unfortunately for the continued prominence of the ghost, pure and simple, the rapidly accumulating evidence, not alone of apparitions, but of telepathic phenomena of various sorts, proved to be, in a sense, too convincing. To certain of the leaders in research, notably including Mr. Myers, communication between the dead and the living appeared to be an established fact. So that the securing of messages from the dead became a matter of such absorbing moment that uncommunicative, spectacular wraiths were very much subordinated. With proofs of human immortality within reach, as Mr. Myers and Mr. Gurney believed, the merely curious and mystifying was properly negligible. Interested followers of the movement must sincerely lament this fact, not only because the study of the ghost itself fell into abeyance at a critical point, but also because of the rather pitiful result at the present day. In England, the inheritors of the movement devote themselves to securing "cross-correspondences" with mediums through whose automatic writing the supposed spirit of Mr. Myers tries to prove its identity. While in this country an intelligence allegedly belonging to the late Dr. Richard Hodgson acts as the unreliable and evasive "control" of the overworked Mrs. Piper, and the American branch of the S. P. R. is chiefly occupied with the far from dispassionate researches of the now fervent spiritist, Professor Hyslop.

Ghosts are a permanent and ineradicable phenomenon

Yet it may not be wholly a matter for regret that the ghost has escaped an exhaustive analysis, that its chemical formula is still unknown. We feel it right that a certain degree of enveloping mystery should be permanently conceded to the phantasmal; and even while we pursue them, we secretly hope that those pale, chilly, fleeing figures may never surrender their precious impalpabilities. We are at least deluded by no superstition, for the fact that there are ghosts—whatever be their insubstantial essence—seems as well established as the intangible can ever be. Indeed, as Professor William James has said, "those for whom the volumes of the S. P. R. Proceedings already published count for nothing would remain in their dogmatic slumber though one rose from the dead." One would suppose that absolute scepticism would be difficult to maintain after reading the two richly packed volumes of *Phantasms of the Living*, and that to one familiar with Mr. Myers's wonderful and enthralling work on *Human Personality*, such an attitude would be impossible. The fact has to be faced that the literary imagination, valiantly as it has set itself to the task, has never produced ghosts that, as compelling dramatic figures, rank with certain of those assembled in these books under the guise of statistics.

It must be taken for granted that ghosts are a permanent and ineradicable phenomenon; that they have always been seen and always will be, though possibly never again with the uncontrollable terror that their pallid masks and cryptic pantomime have formerly aroused. But if they still do manifest themselves, persistent and insatiable of life, who is it, after all—the very young or the very ignorant may ask—that sees them? Well, it may be you yourself, when the inevitable moment comes. In any event, it is certain to be some one within your familiar knowledge. To put it very loosely, it may be safely stated that one person, at least, in every family group has had a phantasmal encounter. Your neighbor may boast of the emptiness of his own experience, but if you press him he is sure to admit that his grandmother or his uncle's wife has a strange, whispered knowledge of apparitions. The S. P. R. found that 7.8 per cent. of Englishmen and 12 per cent. of Englishwomen had hallucinations, and this has since been regarded as an underestimate. It would be profoundly interesting to possess corresponding statistics regarding our own countrymen; to discover whether the ghost-seeing average is a constant quantity, and whether the more favorable conditions (of tradition, setting, and so on) that England undoubtedly affords is balanced in our own case by, perhaps, a keener psychic sensitiveness, or some such circumstance.

The idea, however, that the seeing of ghosts in general depends upon some unusual characteristic or condition in the seer is, of course, a fallacy. Nothing could be more inaccurate than to confound the inconsequential spectre with the vision of the mystic; seeing a ghost by no means implies a condition of ecstasy. It has often been taken for granted by the uninformed that if not actually the hysteric, it is at least the highly organized person, or the excessively eager ghost-fancier, who sees ghosts. On the contrary, the patient keeper of expectant vigils is rarely rewarded by as much as the teasing flutter of a ghostly garment. And if the thing is governed by any law, it is that ghosts appear by preference to persons of sound health and unimaginative temper who do not anticipate their experience. In an authentic story that stands on record, the apparition was seen by a nurse, a stolid, literal-minded young woman, professionally inured to death-beds. As her patient, a lady's maid (and a complete stranger to her) lay dying, there entered the room a ghostly figure of interesting definiteness; that of "a short, dark woman, wearing an apron with a hole in it, and carrying a brass candlestick." Though there was no

resemblance, the nurse was convinced that the apparition was that of the patient's mother; and when, a few days later, the mother did come in the flesh to her dead daughter's funeral, the correspondence proved to be exact; even the apron and the candlestick being identified as articles of constant use by her. This, of course, was not a ghost in the usual sense, but a "phantasm of the living"; but the closeness with which it was verified makes it a serviceable text.

Nor may it be said that it is simple, untrained, easily deluded folk who bring record of ghostly experience, as is shown in the celebrated case reported by "Miss Morton," a case in which the chief percipient was surely almost as remarkable as the apparition. The ghost in this case, which was that of a woman "dressed in widow's weeds and carrying pressed to to her face a handkerchief held in her right hand," was seen in all by twenty persons, by some of them several times over—an amazing case of "collective percipience." "Miss Morton," a highly intelligent and incredibly self-possessed young Englishwoman, who oftenest saw the figure, set herself to obtaining proofs of its immateriality. She lightly fastened threads with glue across the staircase, and saw the figure pass through them. She watched it appear and disappear in a room with locked doors. She even deliberately "cornered" it, while begging it to speak; but the silent phantasm, after the immemorial manner of its kind, even then successfully evaded contact. If all phantoms had had as competent observers, the spectral tribe would be as unquestioned a fact as cabbages.

What, then, beyond being a dramatic and highly decorative feature of life, is it found that a ghost really is? Unquestionably the long-prevailing notion must be denuded of its most familiar characteristics. It is sufficiently established that the ghost is not a "supernatural visitant," a messenger from "beyond the grave." It does not come, for instance, as fiction has repeatedly represented it, to indicate buried treasure. It does not issue warning or foretell disaster. Neither does it hope to do penance; or to exact vengeance. "The authentic ghost brings no message from the dead to the living," says the dispassionate and dependable Mr. Podmore, a statement that of course is not intended to apply to the enormously large class of "telepathic hallucinations" that announce death and form a class by themselves.

As nearly as its baffling nature may be understood, the ghost appears to be a visual echo, a psychic shell, an attenuated astral self, a reflection, in too-sensitive ether, of a life vividly lived or agitatedly relinquished; or an undeliberate strayer-in, it may be, from the looser confines of extra-dimensional space. It is probable that Mr. Myers put it almost too strongly when he said that the ghost was a "manifestation of persistent personal energy." It seems more likely to be, as he alternately suggests, a "veridical after-image." Despite the awe that it has inspired from earliest time, it is evident that there is no need to fear it. It is as devoid of evil as of good; as innocent of purpose as of intelligence. It is useless to ask a ghost its errand. No spectre has ever answered that stammered question. Nor is it wise to suppose it moved by the emotions of which we feel the constant urge. The heart of a ghost is as shadowy a matter as the unsubstantial fabric of its cloak.

Filling a City's Drinking-Cup

HOW WORCESTER, MASSACHUSETTS, FOUGHT OFF THE PERIL OF DROUGHT

By Edward Hungerford

THE season of potential droughts is approaching. How are our cities equipped to meet a possible repetition of the weeks of grave danger which some of them encountered last summer? Let the example of Worcester, Massachusetts, be pondered while there is still ample time to profit by it. It is a story that is here told in full for the first time.

On the first day of August last, Worcester found herself confronted with a water famine. The men in charge of her reservoirs reported that less than thirty days' supply remained within them. It was a dry year—these last six years have been the dryest in the eastern part of the United States since a similar cycle in the early "eighties"—and the dry summer season was not half spent. The situation from any point of view was alarming. The citizens of Worcester were thoroughly frightened because of it.

The causes that had brought Worcester's reservoirs to such an ebb-tide are not worth recalling here. Worcester people were glad enough to forget them in their demand that immediate relief be given to the situation. Such a situation is not unusual in American towns. Many of them have faced it at one time or another. New York was confronted with a similar problem only this last summer and a vast deal of talk was wasted in arguing the matter pro and con. Worcester wasted little talk—she acted.

A great deal of money and thought has been spent in that same busy manufacturing town of eastern Massachusetts within the past dozen years in improving the mental caliber of its citizenship. Not an hour of that time, not a dollar of that money was wasted, and that was shown when the water-famine peril came upon the city. Every man in the place stood behind Mayor James Logan, its executive. The mayor's problem was not an easy one. He faced as real a crisis as had confronted the city within recent years. He quickly reduced the problem to its simplest dimensions. It was not theoretical, not social, not political—it was essentially an engineering problem.

Right there was the difficulty. The city engineer, Mr. F. A. McClure, was seriously ill, and his department was more or less demoralized, although it was making sincere efforts to remedy the situation. Mayor Logan then remembered that Charles A. Allen had an office across Front Street and he hastened over from the City Hall to see him. Mr. Allen is a native of Worcester. His memory goes back to the days when the Boston and Albany used to have its barn of a station on the town common, and that means that he has seen every step of the development of a city that has proved that it can combine intellectuality and industrialism in the highest practical degree. He was for many years the city engineer, and he knows Worcester as he knows the fingers of his right hand. It was obvious that he was the man for the situation.

For a single moment he hesitated. It was not that he had planned his annual fishing-trip up into Newfoundland, to begin upon the following Saturday. But Mr. Allen has been in touch with politics and he knows some of the unreasonable demands it makes upon men who like to get at a thing with business-like directness. Any keen-witted man who has ever tried to handle any important problem in a large American town knows what those demands really are. The eight-hour law is one of the least of these.

"If I could cut the red tape," said Mr. Allen, "I should like nothing better than a job of this sort."

The Mayor of Worcester smiled upon him.

"That settles it," said he, "I'll cut the red tape."

And so he did. He went from Allen's office to that of the corporation counsel and for a little while they conferred together. When they were done Allen had his way cleared for him. Condemnation proceedings had been waived and the civil service commission was told that it must not hamper the hiring of engineers. It had also been agreed to forego the usual period of advertising that must allot the placing of contracts. Even the eight-hour law had fallen before the demands of extreme expediency. The corporation counsel had found a kink in it which permitted a city in just such a fix as Worcester found herself to waive its most stringent provisions.

It was Saturday, August 12th, when Mr. Allen found himself in command of the situation, his hands cut free from the red tape, a big town willing to help him in every possible way. His first step was decisive. Worcester, like almost every other city built both on high hills and in the deep valleys between them, had a double water-service—a high service and a low. There was an altitude difference of 580 feet between the extremes reached by both, although it was possible to supply the highest floor of the highest building in the place, under ordinary conditions, without pumping. The gravity system ordinarily sufficed. But these were extraordinary conditions, and Mr. Allen recognized them by ordering all the water turned into the high-service pipes. That was a good idea, for the low-service mains were bound to have water available as long as there was a supply in the high service. It was not only a good idea but it was simple, one of those plans whose very simplicity has kept it from immediate notice and adoption.

On Monday, the fourteenth, Mr. Allen had completed his plans. His detailed knowledge of the vicinage of Worcester had proved invaluable. He had looked to the northeast, across the green Massachusetts hills, down into the Wachusett Lake reservoir, a part of the metropolitan district's water supply. You must know now that the Metropolitan Water Board is a State commission of Massachusetts appointed to settle the water needs of the great congested district of cities and towns within twenty miles of the gilded dome of the Bulfinch State House on Beacon Hill, Boston. These cities and towns had quarreled among themselves about water supply. Each was rather intent on preserving his own supply fresh and abundant and letting the other fellows go without. Out of their constant quarrelings came the Metropolitan Water Board with absolute power to regulate the entire situation. It hired expert engineers, and then, acting upon their recommendations, it went fifty or sixty miles inland in Massachusetts to the very crests of the hills that divide the watershed of the Connecticut Valley from that of the Atlantic Coast. There was pure water in abundance there, and Boston and the towns round about her could have it by paying for it to the State, at fixed rates for every gallon used.

So it was that the Wachusett Lake reservoir was immediately available for Worcester, and Mr. Allen's problem consisted chiefly of bringing the needed water down into the heart of the town. He turned his attention to the high-service mains. He found that some of these reached the suburban addition of Summit, a little station on the Boston and Maine on the northern edge of the city. He then planned to pump to that point from Wachusett Lake not more than three miles distant.

But to pump water an engineer must have an aqueduct of some sort, and inasmuch as this Wachusett Lake reservoir may be in use for three or four years—until Worcester's permanent relief plans are ready—such an aqueduct must have some permanence of itself. Pipe was the most practical form of aqueduct, even though pipe demands being buried against the freezing rigor of New-England winters. So the man in charge of the situation chose a pipe thirty inches in diameter, for the rather fundamental reason that he could find a large stock of that very size of tubing at Burlington, New Jersey.

The best part of engineering is that which forms a close co-partnership with ordinary common-sense. Mr. Allen must have had the New England predilection for that very sort of partnership, for not only did he locate his pipes and his pumping machinery as fast as the telegraph could speed from one manufacturer to another, but he chose the route of his new pipe line so as to avoid condemnation proceedings wherever possible. That meant routing the new pipe line for the greater part of the way down a lazy country road leading from Summit to Wachusett Lake. At some points, however, it was necessary to cut corners on private property, and at one of these points a native son of New England raised a protest.

"Nothing doing here," he said, as if water famines in towns of 150,000 population were everyday happenings. "It'll cut across the missus's garden and she won't stand for it."

But Allen is a diplomat, and before he had left the farmer that afternoon the latter had seen the error of his ways—aided by a few dollars and the promise of a two-months' job with his team on the new work. You can cut across corners with more things than mere aqueducts.

With the pipe line placed and three gangs working simultaneously upon it, Worcester's emergency man turned his attention to his improvised pumping station. A firm of Boston contractors who have earned a reputation for doing work on close schedule came to his aid. That firm had a chain of branch offices across the land, and through them it began its hunt for a set of pumps for Eagle Lake—of which more in a moment—and for the emergency station at Wachusett Lake. For that last station five great pumps with a combined capacity of ten million gallons a day were secured from a manufacturer's store-room.

Finally there came the question of power for these pumps. On that point Worcester was fortunate. Power-transmission lines are becoming almost as common as the telegraph throughout New England and one of the biggest of these—bringing electricity from the Connecticut River all the way down into Boston—crossed within half a mile of the new pumping station.

Then came the gravest question of all—the problem of generators for transforming that electricity into the energy to send those pumps spinning at 1,200 revolutions a minute. You can buy cast-iron pipe and even sometimes pumps ready-made in an emergency, but electrical equipment is another matter, particularly when you are rigging up 1,250 horse-power within a dozen weeks. That was the final test that came to the Boston concern, but within forty-eight hours it had whispered the name of a Fitchburg mill-owner into Mr. Allen's ear, and he was at the long-distance telephone asking the mill-owner if he would do the city of Worcester the courtesy of permitting it to use those newly completed generators. The mill-owner said that he would.

Big business may be as wicked as it is painted in some places, but Worcester believes that they are well without its boundaries. A mill concern with a private reservoir up on Pine Hill came forward at the beginning of the scare and said that the town could have all the water in its impoundings. When the Eagle Lake supply was brought into play as a second emergency supply the trolley road discovered that it had an abandoned power-house at the edge of the pond which Worcester was welcome to use. Valuable hours were saved by it, for the engineers were able to move boilers and pumps into it from a nearby manufacturer's store-house.

Pine Hill was the first of these emergency supplies to be tapped. If it was only a drop in Worcester's cup it came quickly, and Worcester was drinking it by August 20th. Two weeks later the Eagle Lake relief was also cut into the mains, a wooden sluiceway having been hastily erected. These two plants carried the city on a narrow water-margin while the triple gang worked unceasingly on the more ambitious conduit from the practically inexhaustible Wachusett Lake supply.

Six hundred feet a day of finished conduit was the rule laid down by Allen when he had promised Worcester that after a dozen short weeks its cup of water should never be in danger of going empty. The conduit went in place without delay, the city kept tightly to its word about the cutting of the red tape, and Allen found himself a week ahead of his close schedule when the job was done. In nine weeks from the time the contract was let the plant was ready for test-pumping, in eleven weeks it was delivering a fast-moving stream of water as big around as a man's body at the high level of the Worcester service pipes, and all American records for quick municipal engineering had gone to smash.

The School and the Show-case

PENNSYLVANIA IS MODERNIZING MR. WACKFORD SQUEERS'S METHOD OF EDUCATING THE CHILD BY PRACTICAL DEMONSTRATION

By John S. Lopez

TO tell a school-child that cotton grows in the southern part of the United States and that it enters into various specified manufactures is one way of imparting knowledge. To show that child cotton from the seed to the fiber; to show him actual specimens of the goods into which it enters, from the oil to the meal cake, from the yarn to finished fabrics, from guncotton to soap and celluloid; then to visualize for him the growing of cotton, the picking, the spinning, weaving, and other processes of manufacture—this is another way of teaching the same subject. It is the concrete as opposed to the abstract—the difference between seeing and hearing. Its advantages are too obvious to be enlarged upon. But how could such teaching be possible for all school-children when the growing and handling of cotton are so widely scattered over the globe?

That problem has been solved for the children of Pennsylvania, at a cost of about $10,000 a year—solved not only for cotton but for practically every commodity that enters into the daily use of the civilized world. There has been no blaring of trumpets, but in the minds of many educators it is perhaps the most significant educational change that this country has ever known. The prime motive back of it is the advancement of the commerce of the United States, the preparation of boys—and girls as well—to play an intelligent part in the new era of foreign-trade competition upon which America is already entering, due to her rapid transition from an agricultural to a manufacturing nation.

Most big reforms have small beginnings. This one was unintentionally suggested by some school boys and girls in Philadelphia. In that city is the Philadelphia Commercial Museum, an institution designed for the American manufacturer, where he may study the commercial conditions of the world and learn how best to secure his raw materials and then scientifically dispose of his manufactured products in foreign markets. Commercial expansion is its keystone. It seemed a place to interest only hard-headed business men.

But children in search of essay material began to appear. They strayed through the four mammoth buildings and hovered about the cases containing what is the finest collection of its kind in the world. They had come for work and found something of interest. This was due largely to the way in which the exhibits are displayed. Not only are all the products of the world on view, but there are life-size groups and photographs of natives gathering and preparing those products, interesting paintings and art objects and all manner of curios from the remotest ends of the earth. Those children returned and brought other children with them. The juvenile scholars were getting their first insight into the romance of commerce.

Gradually the significance of these visits dawned upon the officials in charge. Theirs was an institution to teach scientific commerce to men already engaged in business. Why not, they argued, begin to teach children from kindergarten grades upward so that they would be better fitted to enter into business? Clearly there was enough of popular interest in the subject, provided it was properly presented.

Dr. William P. Wilson, the director of the museum and an educator of note, became immediately enthusiastic at the possibilities of the scheme. He found eager co-operation on the part of his colleagues. Through their inspiration and untiring efforts the teaching of geography, commerce, and natural science has been practically revolutionized in Pennsylvania; and such has been the result that other States have begun to examine the new system.

The first purpose of the projectors was to prepare a series of lectures on subjects allied to commercial matters; the second, to make sure that these lectures would be attended. The Philadelphia Board of Education was willing to fall in with the plan to this extent—that while it would not make attendance obligatory, it would grant permission to school principals to send classes to the museum from time to time. Hence it was "up to" the museum to do missionary work among the principals. In truth there was no overwhelming rush at first; which adds significance to the fact that nowadays the lecture periods are all engaged for about three months in advance. Every day children in groups of one hundred go to the museum to hear lectures on countries or regions of which they have been making a study in the class rooms.

In selecting material for the lectures the course had to be set between material of popular interest and material of strictly commercial importance. From the viewpoint of the museum an ordinary travel lecture would be useless. At the same time there must be enough of the historic and curious to sugar-coat the dry facts pertaining to commerce and make them palatable to the audience.

Take, for example, the lecture on "Philadelphia—The World's Greatest Manufacturing City." While all of the historic spots and show-places of the city are described, fully two-thirds of the descriptive matter and lantern-slides dwell upon the varied industries and show the child the actual work going on in the factories, shops, and shipyards of the city; the transit facilities, public improvements, the amusements, and educational life.

A specimen class-room museum of natural products

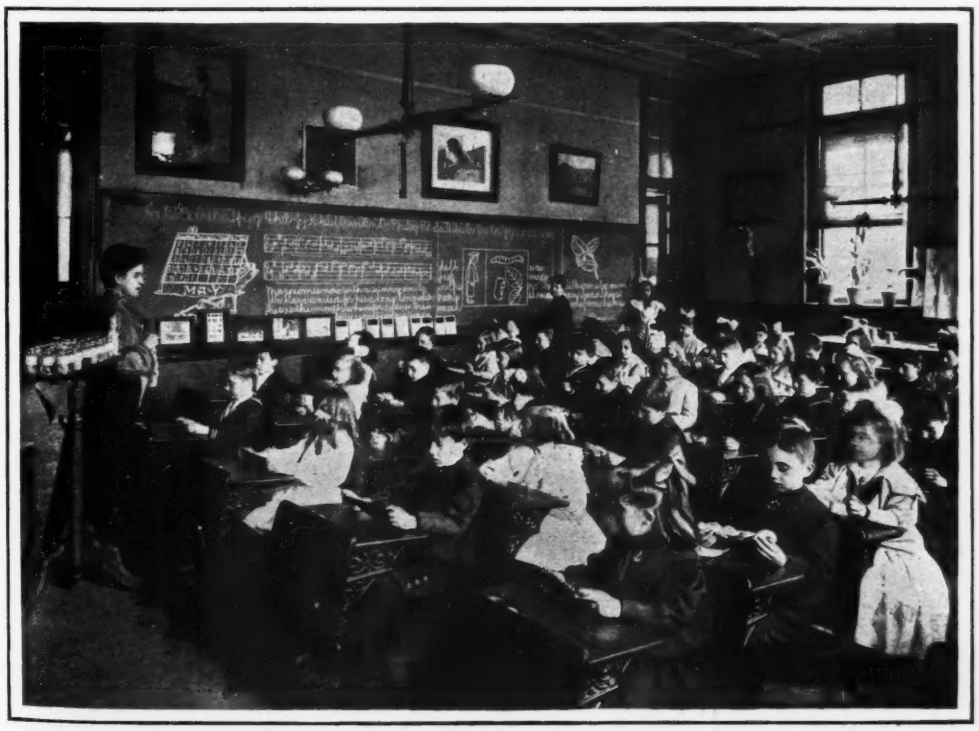
Much of the value of the collections is due to the photographs. In addition to the labels and accompanying information, there are pictures which show the growth and origin of the different raw materials and the methods of preparation. The museum conducts its own photographic plant, in charge of Frederick D. Maisch, an expert on museum photography. Last year for the school collections alone there were turned out seventy-five thousand prints, and this does not take into account the thousands of lantern-slides made. In all there are now in use in the schools about 300,000 photographs.

While the plan was justifying itself in Philadelphia, steps were being taken to extend the system. The project was formed to supply to every public school in Pennsylvania a permanent museum which should contain commercial products from every part of the world, and the State legislature appropriated money for the purpose. To-day there is no mountain schoolhouse, miles from a railroad, but may have its own illustrated lectures and its own scientific collection of articles that enter into the world's commerce. It is not possible, with the funds available, to send lecturers from the museum, but after much consideration a practical plan has been worked out. This is the supplying of typewritten lectures together with appropriate slides. A number of subjects following the general outline of those given at the museum have been prepared, together with beautifully colored sets of slides to illustrate for various countries the geography, vegetable and animal life, natural resources; appearance, dress, manners, and customs of the people; the industries and trade of the region, principal cities, buildings, harbors, and the means of transportation.

Projecting lanterns, either electric, gas or kerosene, to suit the facilities of any schoolhouse, are supplied, together with a large screen on which the pictures can be shown. With each outfit there are also sent specimens of important products and curious things which show the manners and customs of the natives of the country that is the subject of the lecture. All a teacher need do is read the lecture as the pictures are shown. The English pronunciation and the definition of all foreign names are included, so that the pupil will not be led astray. These lectures are revised to date as events transpire. That on China, for instance, will contain facts regarding the commercial significance of the present revolution.

While this sort of teaching is new to America, there is a somewhat similar system in use in Germany. There the commercial class-room museums are used, although they do not include the feature of illustrated lectures. As the museum directors point out, Germany is far in advance of the United States in commercial achievements, and in no small degree is this to be attributed to the educational methods of that country. There the small boy grows up with a generally exact idea of the products of the world and able to identify the grades of various raw materials. Whatever business he enters, he knows something of the materials that appertain thereto, he knows commercial usage, the world's best markets for different products, the sources of supply for various materials that enter into manufacture. His mind is prepared for rapid specialization.

How different it is in America! Here the boy who knows the difference between a piece of linen and a piece of muslin is a rarity. No matter what his business, he must learn it from the ground up. While he is getting to the point where the German lad started, the latter is well on his way in the business world and seizing the business opportunities that offer themselves.



The new practical method of education in use in a Pennsylvania school

FLOOR-MANAGER TAFT: "HOLD ON, COLONEL—YOU CAN'T DO

DRAWN BY W. KEM

CAN DO THE GRIZZLY BEAR WITH THAT DEAR OLD LADY!"

WN BY W. KEMBLE

Artful Mr. Werriss

By Mrs. W. K. Clifford

DRAWINGS BY E. FUHR

"What have you come for, Miss Findon?"

I

MR. MILSON, senior partner of the firm, was busy in his private office. There was a knock at the door. "Come in," he said.

A girl entered; she was one of the clerks, twenty-two, slender, dark-haired, and pale.

"Well, Miss Findon, I understand you want to speak to me?"

Miss Findon looked a little scared. Mr. Milson was somewhat searing—fifty-five, tall and stout, with deep lines, thick eyebrows, and a bald head. There was a chair by the side of his table, but she was not asked to sit.

"Yes, sir." The voice was courageous but hesitating. Mr. Milson, experienced in interviews, knew that she had come to ask for something. "I wanted, if I might, to speak to you alone," she said, uneasily. A young man, lean and long-faced, was writing at a table on the other side of the room.

"Mr. Werriss hears and sees nothing unless he is desired to do so."

"I—I thought—" She hesitated again and looked across at the bent head.

Mr. Milson put a shade of impatience into his manner; she was dissatisfied about something, of course, or she wanted a raise. He would have no young women in his office who did not fully appreciate the privilege of being there; as for raising her screw, she was a very fair typist and could manage the French correspondence, but she was well paid, twenty-five shillings a week; lucky young woman to get such a post, with thousands waiting for it if she went.

"Anything wrong, Miss Findon?"

"I don't know what you'll think of me, Mr. Milson, but I'm doing such a daring thing," she said. He saw that her eyes were large, gray, and pathetic; girls in her position, he thought, had no right to such eyes, or at any rate should only use them for their work, or to charm fellow-workers of the other sex in the evening when they went for a walk. All very well then, of course; nevertheless a little smile struggled to the corners of his mouth.

"What is the daring thing, Miss Findon?"

"I would so much rather speak to you alone." It was almost an entreaty.

Mr. Werriss proved that he was alive only by the scratching of his pen. Mr. Milson became curious inwardly, surprised outwardly. "To all intents and purposes we are alone," he said, firmly; "Mr. Werriss belongs to our American branch, and makes no acquaintance in the office!"

"He is in a convalescent home now, he was two months in the hospital before he went there."

"Where is the home?" Mr. Milson remembered that he gave ten guineas a year to one in Kent, and in return had the satisfaction of seeing his name printed in a list of his betters.

"St. Eldred's at Shipton-on Sea."

"I know nothing about it. What have you come for, Miss Findon?"

"The doctor says he ought to live an outdoor life, that he simply must have fresh air and exercise. If he could go out to America or California it would save him."

Mr. Milson raised his voice. "We've no vacancy in our American house—have we, Mr. Werriss?"

Mr. Werriss looked startled. "We are full up—overflowing, I may say," he answered, and went on with his work.

"I didn't want that," Miss Findon explained. "We have a cousin in Los Angeles—"

"Well, you'd better write to him."

"I have," the tone was low, but pleading and excited. "He says that if Jack goes out he will start him on a ranch. He may grow strong there and make a fortune; but he must have his passage out, and things to take with him, and a little money in his pocket."

"I've nothing to do with all this." Mr. Milson was beginning to see the drift of the interview.

"I couldn't—of course I couldn't"

It reassured her a little. She looked toward the young man again and noticed that his coat was shiny on the shoulder; the light from the window behind him betrayed it. She had heard that the son of the American partner was in England, but this could not be he, for he looked poor; anyway, after Mr. Milson's remark, he was not likely to tell any one in the office what she was going to say. She turned toward her employer again. "My brother has been dreadfully ill. He had typhoid and worked too hard; he was in an Insurance office; it nearly killed him."

"I believe other offices work their hands much harder than we do." Mr. Milson thought it as well to rub that in.

She gave a little gulp, her eyes shone: "If you would advance me fifty pounds—we've no one at all to go to."

"I—God bless my soul, you must be mad, young woman. People don't do these things for strangers."

"But if you would—"

He cut her short with: "Why don't you ask your cousin; who is he?"

"He is a Harvey Findon, he has a store in Los Angeles—perhaps you've heard of him?"

Mr. Milson was getting cross. "Of course I've not heard of a man who keeps a store in Los Angeles—a place with two or three hundred thousand people in it. Why don't you ask him to help you?"

"I can't," she said, faintly, "I wouldn't for the world. I would work it off; you pay me one pound five a week—"

"A very good salary. We give it you on account of your knowledge of French; but it would hardly enable you to repay fifty pounds, if I were inclined to lend it—which I am not."

"I would let you take half—all of it, if I could get some French pupils for the evening. I know I can teach it well," she added, with a gleam of pride.

"We'll not discuss this matter further." He put up his hand with a sign of dismissal and turned resolutely to his papers. "I think it a most preposterous request—and impertinent."

She hesitated for a moment. "Please forgive me," she said.

He looked up and saw her eyes again. Something twitched at his heart, but only for a moment. "Young women are extraordinary beings," he muttered.

She went slowly out, closing the door softly.

Mr. Milson caught Mr. Werriss's eye. "Pretty cool?" he said.

"Well, she has the right idea," the American answered. "The most precious thing in this world is life; money isn't any use without it, and the highest form of it is bottled up in human beings. She wants to preserve the one within her reach, and anything is worth risking for that."

"I think it was impudent of her."

"Why, no; it just showed she had a good opinion of human nature."

"But I'm merely her employer. I never even saw her brother."

"That makes her opinion all the finer. I expect it's had a shock."

"She's a good-looking young woman." He paused a moment. "I'm told she does her work very well."

"She wouldn't mind doing it on very little for the sake of that brother."

"I dare say he isn't worth it."

"Well, come to think of it, it generally takes two men to make up the value in one woman. Myself, I like the risk she took coming into this office and asking for that money. You may depend on it she didn't like putting her pride in her pocket on the chance of putting fifty pounds in his." The black marble clock, dusty and spotty, gave out an uncertain stroke. Mr. Werriss apparently dismissed Miss Findon with a jerk from his mind. "It's nearly lunch-time," he said, "and I haven't finished up these entries." But he found it impossible to get on with them. Something had happened to him; he kept seeing a slim figure in black, hearing a low voice plead for money to save a brother's life. Well, there were hundreds of sick men with lives to save. What did one more or less matter?

II

He sat at a marble table in the cheap luncheon-place round the corner, and was served with two poached eggs on spinach and a cup of coffee. A little way down, facing him, was Miss Findon, with a cup of tea and half a scone; there was no butter to the scone. When she looked up and evidently recognized him, he, too, saw that the eyes were soft and gray; but they looked sad and tired, and her hands trembled a little as she replaced the cup in the saucer. He wished he hadn't come to the same place to which she had come, but it was his habit to do so; besides, he had never seen her there before—perhaps she had had a different seat. He felt awkward, for she must know that he had heard every word she said. She finished her meal quickly, paid threepence at the desk, and went out.

"I expect she's pretty well done," he thought. "She spent all her courage on Milson and probably hates seeing me here." He looked up at the clock. Three-quarters of an hour before he need go back; he hurried to the desk, told the young woman to keep the change from his shilling, and stood outside straining his eyes. He could just see Miss Findon at the end of the street; with long strides he fled after her. She went on toward an old graveyard that had been

cleared and turned into a green space. There were two or three seats; tired workers often sat on them in their dinner-hour, getting such fresh air as was possible.

Miss Findon sat with her back to him, and was very still. He knew that she saw and heard nothing; he passed behind the seat once or twice, then determined to make a desperate plunge. He went up to her and lifted his hat. "If you'll forgive me for speaking to you, I'd like to do so," he said.

She seemed to be awakened from a dream. "Yes, what is it?"

"I expect you saw me in the office just now?"

"Yes." Her manner was cold and discouraging.

But a brilliant thought had given him courage.

"I heard you say something about teaching French in the evening."

"Yes."

"That language has been the great bugbear of my life. I've never been able to get near it anyway."

"Oh!" A smile came into her eyes. "It is difficult, I know."

"Well, what I'd like would be if I could get at it on the quiet of an evening through the winter; I might take it by surprise, and I wouldn't mind what I paid if I did that."

"There are schools and classes."

"Don't want them; but I thought it might suit you and help me, if we could come to terms?"

She looked almost resentful, and suspected him of wanting to give her money in the guise of lesson fees. "I shouldn't care to have one pupil only; if I had four or five—"

"I believe you guessed it," she laughed, as she gave the address

"Well, perhaps you'll allow me to sit down while we discuss it?"

She nodded for answer.

"I'd like to know what your charge would be."

She felt that this was business-like. "I generally get two shillings an hour for conversation lessons. But I would take less."

"If you could get five of us together"—he settled himself on the seat as far away from her as possible, he thought it seemed respectful—"why, that would be two dollars and a half a night; say four nights a week, ten dollars—two pounds. It would mount up—money does. There's nothing more curious than money; if you don't look out, it slips away, and before you know where you are it's gone; but if you go on adding to it, it mounts up just surprisingly."

She hesitated before she asked, "Did you hear what I said to Mr. Milson?"

"Why, yes, I did, every word; I don't deny it. I was struck—"

"Struck?"

"Why, with the sense that you've got to see that life's valuable enough to make it worth while to ask for what may save it. I hold with being independent. People who are no use—I mean who don't work or make you feel better or happier, or decorate the world by being good to look at, who don't pay for their footing in any way—are better dead; but there aren't many of them about. There's value in everybody—I never yet met any without it—and we've got to do the best we can to keep them alive. As a rule, it can't be done without money."

She looked bewildered.

He explained. "You see, if a million arrived for a man on his funeral day it wouldn't be any good to him, whereas ten dollars the week before might enable him to live and choose his own motor-cars later on. That's why I thought it fine of you to walk into the lion's den this morning and ask for that fifty pounds. I bet you had a struggle to make yourself do it."

"Oh, I did." She gave a little shudder.

"Well, it's over. I wouldn't think of it any more—only of some other way in which you can get what you want. If you take to teaching French, or"—he stopped and held on to the back of the seat—"there's another way: if you wouldn't mind taking a loan from me—"

"From you?" she exclaimed. "I couldn't; of course I couldn't."

"I've got it and I can't tell you how glad I'd be. Money is no good till it's spent; there it is, and if you'd make use of it—"

"I couldn't," she repeated, firmly.

"Don't see why you should mind borrowing of me any more than of Mr. Milson?"

"I do. He is my employer. I've worked for him these two years and he knows me. You are very kind; but it's impossible."

He was afraid she would get up and walk away. "Well, you must forgive me for suggesting it." He became business-like again. "If you don't mind my asking, haven't you any friends or relations who'll run to it?"

"None, except Harvey Findon away in Los Angeles." She stopped for a moment, then added, firmly, "It would be impossible to ask him."

"Then suppose you think about the French?"

"Yes, I'll think about the French," she said, anxiously, "but Jack ought to go at once; November begins next week. You see, the typhoid fever came at such a bad time, before we'd finished paying off the debts that mother's last illness made; he never told me how he starved himself. He used to be so merry, it was dreadful to see him white and ill instead of laughing and running—" She stopped suddenly.

Mr. Werriss looked at her; he put his hand to his throat as if to steady his voice, and took another plunge. "Look here, Miss Findon, you don't know me; you may think I'm a bounder, but I'm not. What you've said hasn't been much, but it's been like the crack of a door through which you can see into a room though you mayn't ever get inside the room itself; and I'm going to be very bold and ask you to let me help save a man's life. It would be a grand thing to do, and you could work it off with the French lessons."

He spoke so humbly that it was impossible not to reach out to him a little.

"I couldn't," she said, gratefully, "but you are kinder than any one I ever met."

"I'd just love doing it. 'Tisn't a chance that comes every day—"

From that hour he was possessed by Miss Findon. She came between him and his work, looked down at it with her gray eyes, and spoke to him in the low, clear voice that had now and then a tremor in it; she walked home beside him, in his thoughts, slim and compact, rather a small woman, five feet two, perhaps, "but a little somebody" he said to himself, "the sort of one you treat properly because she stirs up the best in you and makes the rest hide; though she didn't do it to old Milson; believe she would to him, though, if he'd seen more of her. As for you, Jefferson Werriss, you're losing your head about her." He pulled himself up to wonder why it was. He had seen lots of girls—he wasn't even sure that she compared favorably with some he remembered in New York—but there was something about her that made him almost dizzy; the little way she put back her head, as if to keep you at a distance, that strange hat she wore, close and black, with a velvet bow at one side, and—well, he didn't know. It was altogether a queer thing about women. Hundreds of them, smart and pretty and all the rest of it, might pass by, and then one came along and, for no particular reason you could state, took hold of your thoughts and kept them, and there wasn't any getting rid of her. He had heard other men say this; he was beginning to find that it was true.

III

Three days later Mr. Werriss was seated at the marble table again, waiting and hoping for Miss Findon. There was repressed excitement in his manner, now and then a lurking smile about his mouth. He had smartened himself up a bit, changed his coat and tie, and looked quite different from the long, lank figure that had walked furtively behind the seat on the green space, gathering courage to speak.

She entered with a quick step and a triumphant setback of her shoulders, went straight up to his table, and asked if she might sit opposite.

"Why, I'd like it," he answered, nervously.

Tea and scones had arrived—there was butter to the scones to-day—before she spoke to him again. "I've wonderful news," she said—her voice was husky—"I know you'll be glad."

He made a queer little sound of assent.

"Harvey has sent the money."

"Oh?"

"He sent it yesterday—isn't it wonderful?"

"What did he say?"

"He cabled to a banker over here and told him to write to Jack, at the home, to say that it was waiting, if he'd call, and that he was to sail at once."

"And he'll go to Los—to Los Angeles?"

"Yes, yes, of course he will. On Wednesday from Southampton. Oh, it's life for him, it's salvation. Isn't it splendid of Harvey?"

"It's about the best thing he could do, and he probably knew it."

"But he's only a cousin and he hasn't seen Jack for a long time."

"Well," he said, slowly, "I never see any particular virtue in doing a thing it would have been pretty bad to leave undone. I expect he's getting on out there?"

"Oh yes, he's getting on."

"And he has saved himself from an uneasy conscience."

"Oh, don't say that." Then, as if she divined the reason of his lack of enthusiasm about the distant cousin, she looked up; his eyes were bent on her and a strange confusion gathered in her own; she shook her head as if to steady her voice: "Of course, it was much more wonderful of you—to do what you did; for you don't know Jack at all. I don't believe you ever saw me till I went into the office that morning?"

"Well, no, I never did; but, as I told you, after that talk the other day, I felt as if I knew the inside of your life as well as if we'd been friends for the whole of it. You won't want to go on with the French lessons now, I guess?"

"I will—if you really want them; but we'll wait till Jack has gone. I shall go to Shipton on Tuesday night and take him to Southampton on Wednesday." She buttered the last bit of her scone. "I wish I could do something for you," she said.

He waited a full minute before he spoke and then he seemed almost frightened.

"You could—something real big."

"What is it?"

"I'd like to get a day's leave and go to Southampton, too."

She was almost startled.

He went on quickly, afraid of a refusal: "I wouldn't come near you till just before the start. But I'd like to shake hands with him. You'll be low-spirited when he's gone, and I could bring you back if—if there's no one else?"

"Oh, there's no one else." She considered for a moment before she added, "It's very kind of you, Mr. Werriss. I'd like you to go; only"—she hesitated to mention it—"it's such an expensive journey."

"It is a good deal," he allowed, "but I could run to it; and a sight of the sea would freshen me up."

She scanned his face. "I believe it would," she said as she rose.

"Now I'm going to see about Jack's passage," she said. "Oh, it is fine of Harvey!" She gave a long sigh of satisfaction.

They left the shop together. "Wonder if you'd let me take you down to the shipping-office?" he asked. "You won't know the way."

She shook her head, but her voice was sweet. "I want to be alone and think it over. I'm not fit company for any one to-day. I shall take a cab," she added, recklessly. "I'm going to the bank first for the money. Jack has sent me the order, and I know where the shipping-office is."

"One is best alone when there's thinking to do," he

"Say it again—and I'll lose my head right off"

agreed. "The way into things and out of them seems easier."

He hailed a taxi and put her in. "Lombard Street. Bank of ——" He stopped abruptly and turned to her. "I think you didn't say the bank?"

"I believe you guessed it," she laughed, as she gave the address.

"Well one does guess things sometimes," he said, and closed the door. She leaned forward with the radiance still on her face; it made a picture, and the open window seemed to frame it.

"Mr. Werriss," she said, "I think you are splendid, too, and I'm glad you're going to see Jack."

IV

He didn't see her again that week and disappointment took hold of him. "I expect she's hurrying round getting his things," he thought. "I'll get him something, too; it might please her." He tried to think of a present, but it was difficult to choose one for a man he had never seen and of whom he knew nothing. At last it occurred to him that a book or two might be the right thing, so he bought Hapgood's *Life of Abraham Lincoln*. Any one going to the United States was bound to be interested in it. And then he chose a history of California that had pictures of San Francisco in the early days when Montgomery Street had wooden sidewalks and the gold craze was on. It had views of Los Angeles itself, too, at the present time, with its orange-trees and mountains, and an idealized picture of its flat-roofed business quarter. "He'll be able to prime himself up with it before he gets there," he thought.

Monday came; only two days remained before the boat sailed. At half past one he sat at the marble table with his eyes fixed on the door. But there was not a sign of her. Probably she was busy, yet somehow he had thought she would contrive to come. A dull foreboding took hold of him, a dread lest anything had gone wrong.

An envelope was on his desk when he returned, directed in a small, firm hand, with each letter clearly formed. He knew it was from her, but for the life of him he couldn't open it. He pushed it under the blotting-paper and went on with the entries in the big blue-lined book before him.

Mr. Milson looked up. "By the way," he said, "that Miss Findon has left. She is going to California with her brother."

"Oh—well, it's a good thing for him," Mr. Werriss managed to answer. The words before him became blurred, his head swam, and suddenly he realized that London was a desert and impossible. "This climate is too much for any one," he jerked out. "I'm finding that myself."

Presently he read the letter. It ran as follows:

"DEAR MR. WERRISS,—Harvey says Jack must have some one to look after him out there and has sent money for us both to go. I suppose he cabled more the other day, thinking it wouldn't be enough. We start on Wednesday by the *Tadmena*. I expect this is good-by. Thank you very much for all your kindness.

Yours truly,

WINIFRED FINDON."

There was not a word about his seeing her off.

V

He was on board the *Tadmena* more than an hour before it sailed, but amid the confusion and crowding he saw no sign of her. Then suddenly, just as the dread of missing her was laying hold of him, he came upon her near the companion. She wore the same close black hat and tight cloth jacket, but there was a funny little fur tippet tied round her neck with a ribbon bow. She stood anxiously watching the gangway by which he ought to have come on board; he had gone to the one at the other end by mistake. Her face lighted up when she saw him and she held out her hands. Her gloves were screwed up in the left one. "Oh, Mr. Werriss," she said, "I thought you weren't coming."

"Told you I would," he said, and thought, "She was looking for me—that counts."

"Yes, but it was to take me back, and I'm going on."

"I expect you're glad?"

"I thought Harvey would look after Jack, but he says the farm is miles away, and he's taken up with his work—and—other things have happened. Jack couldn't be left alone with no one to look after him."

"Why, that's evident."

"But—I didn't want to go like this. I shall pay Harvey back, of course." She said it hurriedly and the color came to her face.

An idea began to dawn on Mr. Werriss that disturbed him considerably. "What sort of chap is he?"

"He's very kind; he always was."

"Old or young?"

"He must be nearly thirty."

"Why, he's young—" A dead weight settled on his heart. "Is he—"

A lanky youth with gray-blue eyes and gay schoolboy manner came up to them. "Here's Jack," she said; "he knows all about you, Mr. Werriss."

"I should think I did," the youth exclaimed, and shook his hand. "You have been a brick—just stunning." He sat down on a seat, evidently exhausted.

"A chap with too much vitality. He'll burn out if he doesn't take care," Mr. Werriss thought. "I guess you are tired?" he said, a bit awkwardly.

"Rather," with a cough, "but it's an awful lark going to California. I had a very fine bust-up." Jack was evidently a slangy youth. "Typhoid and influenza take the color out of things pretty completely. I expect Winnie told you." He turned to her with, "Look here, I wish you'd go and settle up about the places at table. I want to be away from the door."

"Wait here," she said, "and Mr. Werriss will keep guard over you. I'll see what I can do. We don't sail for half an hour yet. Do make him sit still, Mr. Werriss. He isn't a bit strong." She turned away. "Are these yours?" she asked, pointing to a packet and roll. "You'll lose them in this crowd if you don't keep them by you."

"Why, yes, they're two books," Mr. Werriss answered, artfully concealing the fact that they'd been bought for her brother. "I thought you'd like to do a bit of reading going across. You'll find it cold, I can tell you, so I wondered if you'd mind taking this rug for me. You can drop it on the other side. I brought it over and want to get it back, somehow. I'll give you the address to which to send it."

She looked up at him curiously. "Oh, but—"

"It's pretty cold crossing. I should think your brother here will want it."

"I did get him one."

"Didn't get one for yourself, I'll bet?"

"No-o."

"Well, you take this. We long-distance Americans know how to make a journey comfortable. You'd better go and look after those table places," he added. Something made him anxious for a talk with the brother.

"She always gets things done for her," Jack said, confidently, when she had gone.

"It was unexpected, her going out with you?"

"Should think so. Harvey's been worrying about it all the time—"

"He wanted her?"

"Rather. He's awfully gone on her; always was; wanted to come back and fetch her. She never would hear of it—I thought he'd given up the game when he cabled for me."

"And she's given in?" Mr. Werriss asked, trying to make his voice natural.

Jack coughed and nodded. "I expect so. He wrote to her, not to me. She won't show me his letter, but it's all right."

Mr. Werriss sat staring at the crowd.

"Is this chap Harvey going to join you on the farm?" he asked.

"Don't know. I thought he was, but now he says he can't. Winnie's got it all up her sleeve and we've not had time to talk it out yet. I wasn't well last night and had to lie low. I telegraphed her not to come till this morning. Some people brought me in a motor to Southampton and I didn't see her till she met me on board half an hour ago."

"I might have brought her," Mr. Werriss thought. "Luck's against me."

"Look here, I think I'll go and take some tonic stuff—it's in that cabin—if you don't mind," the boy said. "This bustle goes to my head. Wait here till Winnie comes back or we might miss her in this crowd."

Mr. Werriss sat very still and thought it over. He was not getting much out of it; she was going away to marry this cousin and he'd helped her to go. But it couldn't have been averted, anyway, and the boy's life had to be saved. Besides, it was Harvey's letter that had done the business; the letter with the passage money for both. He tried to think that he was a fool, for he was in love with her, he knew that. It was no good disguising it to himself. She was the sort of girl he had always been looking for, waiting for, vaguely hoping to find, and now another chap had been before him. Bad luck, he called it, for there was something in her that spoke to him, recognized him; it said that, given a fair field, he would have had a chance. "And with that little hand on my arm, and that little face looking up, why, I'd tramp from here to Jericho, carrying her over the rough places, and think it a holiday march. Another chap before me. Jefferson Werriss, you're done, you're done!" Then she came and he pulled himself together.

"Jack is lying down for ten minutes," she said. "He's so tired and the journey from the home and the confusion on deck have been too much for him. I am glad I'm going with him—he needs some one."

"For more reasons than one, I understand?"

She looked up.

"I am to congratulate you, am I not?"

"Congratulate me?"

"I understand you and Mr. Harvey are going to be married. He's a lucky man."

"It's not true." She looked right into his eyes. "Jack told you, of course, but he knows nothing about it."

"You mean to say—" His voice shook.

"That's why I didn't want to go—to take Harvey's money for myself. I was so pleased when he cabled only for Jack and said nothing about me. I thought they would be on the farm together. But his letter has made it all right."

"How is it right? Hasn't he been wanting to marry you all along?"

"Yes," she answered, simply. "But I didn't want to marry him—he's very kind, but I never wanted that. And now he's married some one else, he told me in his letter. But the girl's father doesn't know, and it has to be kept a secret for some reason. He said I wasn't even to tell Jack, for Jack always tells everything. That's why he wanted me to go out; it altered things and he couldn't look after Jack. But Jack doesn't know," she insisted, "and you mustn't tell him—"

"I won't," said Mr. Werriss, joyfully. He made another plunge. "Look here, there isn't much time to say what I've got to say, but I can't risk leaving it—" He stopped. "Well—we're friends, aren't we? Do you feel like that at all?"

She gave a little quick nod.

"I said to myself yesterday that I'd give the earth to see you again—I'd give it ten times rather than not see you—not to see you a great deal; and unless you tell me not, one fine day I shall be walking up to the door of that ranch."

She laughed. The whole horizon seemed to clear for her, too. "I should love it," she answered.

"Say it again"—he took her hands and leaned forward—"and I'll lose my head right off."

"You mustn't do that. Heads are very useful things."

"I'm going back next month to New York. California's a pretty good journey, but before three months are over I expect you'll see me coming along. My goodness! I've thought of nothing but you since that day you came into the office. Queer, isn't it queer? They're getting ready to turn us off. You won't forget?"

"No, I'll not forget; you really mean you'll come out?"

"Indeed I will."

They had been married three weeks before Mrs. Werriss learned that her husband was the son of the American partner and heir to his millions. She had found out one or two other things that surprised her a good deal. "I never dreamed it was you, for a long time, not even when Harvey told me he hadn't cabled any money," she told him. "Then I remembered that you nearly gave the right direction to the bank."

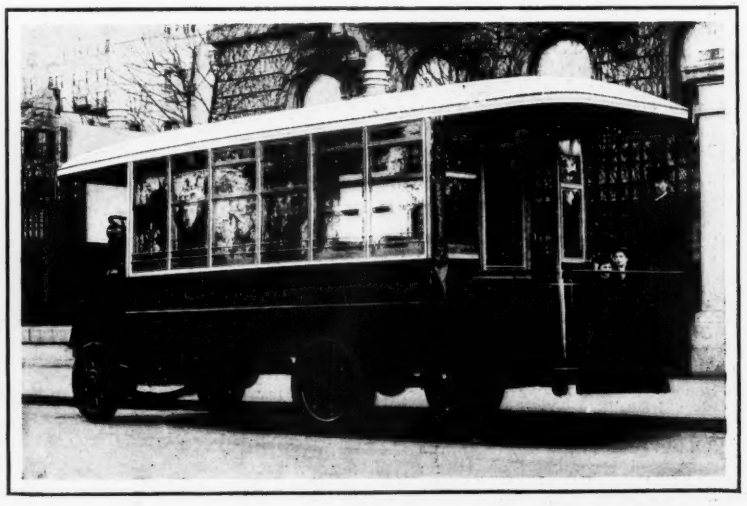
"You see, you wouldn't borrow it of me," he said in an apologetic tone. "And a woman has to be circumvented."

"You are very artful."

"I am," he agreed; "but I have found it answer. I guess I shall go on with it—occasionally."

JEWELS OF THE RUSSIAN CROWN

FROM LEFT TO RIGHT ARE THE GRAND-DUCHESSES MARIA, AGED TWELVE; TATIANA, FOURTEEN; ANASTASIA, TEN; OLGA, SIXTEEN; AND THE GRAND-DUKE ALEXEI, THE HEIR APPARENT, AGED SEVEN



SEEING FIFTH AVENUE THROUGH PARISIAN WINDOWS

ONE OF THE NEW "SINGLE-DECK" MOTOR OMNIBUSES FOR FIFTH AVENUE, NEW YORK, WHICH REPLACE THE FAMILIAR "DOUBLE-DECK" TYPE IN COLD WEATHER. THEY ARE MODELED AFTER THOSE IN USE IN PARIS

Interludes

NOT WEATHER WISE

UNCLE JEDEDIAH walked up the road in the direction of his general store with a genial glow in his heart. It was terribly cold, the thermometer in the drug-store having registered seven below zero that morning, but it affected the old man's happiness not at all. On the contrary, it rather increased it, for these terrific cold snaps always brought about a boom in thermometers among his friends and neighbors, as well as among the farmers for miles around, and he had visions of great profit in selling off a remainder of two dozen of these instruments left over from last season.

"We'll git rid o' them pesky things afore the week's over," he smilingly muttered to himself, and then, coming to the front window of his store he paused, and uttered an ejaculation of dismay. His boy assistant, thinking to help the sale along, had planted thermometers, not less than twenty in number, in every available portion of the window.

"The derned little jackass!" cried Silas, rushing madly into the store.

"For lands' sakes, Joel," he cried aloud, after assuring himself that nobody else was within hearing distance, "ain't ye got no sense?"

"What 've I done?" demanded Joel, his freckled face crimsoning to a hue as deeply red as his hair.

"What ye done?" demanded Uncle Silas. "Why ye've done yer level best to bust the thermompty trade, that's what ye've done."

"I hain't, nuther," retorted the boy. "I bin tryin' to holp it—I put every derned thermompty in the place outen the windy there, and what's more I've put up a sign sayin' as how they's all been tested, and found keerect."

"I see ye hev," said Uncle Silas, "and that's what I'm kickin' about. Git 'em outen the windy on the double-quick or I'll give ye a whop ye won't forgit in forty years."

The boy started grumblingly for the window.

"Don't see what's the use o' all this fuss," he muttered.

"No, you wouldn't," retorted Uncle Silas. "But I would. Look at 'em, ye idjit. You says on your placard they's all been tested and found keerect, and one on 'em says it's ten below zeero; four on 'em says it's fifteen above zeero; two on 'em is settin' around freezin' p'int; four on 'em's up to summer heat; and that pesky little cuss off in the corner's tryin' to climb up onto the roof with a tempryture fitten to bile a egg in. Hereafter, Joe! Wilkins, when ye try to boom thermomptys jest you bear in mind that a lot on 'em together ain't no more convincin' than a hen convention, and don't show no more'n one at a time."

Whereupon the old man assisted the boy to remove the stock from the window, all except one, which registered ten below zero in the sun. The placard he left.

POSSIBLY

"WHAT I like about motoring is the fresh air one gets out of it," said Hicks.

"Ha! Hum!" said Wiggles. "I wonder if that's where these chauffeurs get that very fresh air that is so characteristic of the species."

HER REQUEST

IT was a wild night outside, and they had sat closer together than usual for several hours before the flickering light of the log fire. A silence of many minutes had lain unbroken over them, and finally, as the clock struck ten, she stirred slightly.

"Henry," she said, her voice trembling somewhat. "I have been thinking matters over for the last half hour very carefully, weighing the pros and cons as fully as I knew how."

"Yes, dear?" he said, feeling sure of what was to come.

"And I am going to ask you a question—" She faltered.

"You should know in advance what my answer will be," he murmured, softly.

"I think I do, Henry," she went on. "You are the only man in the world of whom I would ask it. Horry Winterburn is a fine man, and I am fond of him, and I think he is fond of me, but I should not think of asking it of him."

His heart leapt with joy. Horry Winterburn was his most dreaded rival.

"Go on, Maude," he whispered.

"Nor should I ask it of the Reverend Mr. Castleton, though I have known him all my life. It is you—you alone of whom I would ask this great—"

"Don't—don't keep me in suspense longer, Maude," he cried. "Can't you see the endless succession of yesses on my lips waiting, just waiting for your question?"

"Very well then, I will ask it," she said, happily. "Henry, will you please find Fido and tie him up in the barn on your way home?"

THE MEDICINE MAN PERFORMS HIS SAVAGE RIGHTS

"GEE! FATTY, YOU CERTAINLY GET YER MONEY'S WORTH OUT O' THEM BUTTONS."

THE NEW RECRUIT: NO, I DON'T THINK I WILL TAKE THIS ONE; IT DOESN'T HANG WELL IN THE BACK.

THE LIMIT

"WELL, I see that that jackass Elderberry has gone and put his head in the noose again," said Hawkins.

"Worse than that," said Banta. "He's got it in the noose-papers."

ODE TO FEBRUARY

Here's the gallant month of Feb! How the slush doth flow and ebb! How the influenziay now doth echo on the way, with its soft and tuneful sneezes; with the oft repeated wheezes of the snuffles, blithe and gay, soughing round us night and day!

Oh thou month when resolutions undergo great revolutions, and the poor unhappy man who's been good since first of Jan. doth resume the ancient vice that one time gave life its spice, sending down good pavement hard for Gehenna's boulevard!

How the winter blasts do roar! How they thunder at the door! How they shake the window pane with Borean might and main! How the world doth crack and thrill with its wealth of frosty chill, followed shortly by the hush of an endless stream of slush!

How the taxis chug and thud, scattering the liquid mud o'er the careless passer-by as upon their way they fly! Oh the mornings bright and clear with a hint of spring-time cheer, followed by a falling night in the grip of blizzard tight!

Touch of spring, and touch of fall, with old winter over all! Now a bird-song from the tree! Now a slump of mercury! Now a hint of violets! Now old Zero's chill regrets! What in all our yearly web is so raw 's a day in Feb?

PURELY SPECULATIVE

"I HAVE always been interested," said little Binks, "in the utilization of waste. Now where do you suppose all these bursted tires go to in the end?"

"I don't know," said the Genial Philosopher, "but if they go where most people consign 'em there must be a terrible smell of rubber in the hereafter."

The Return of Meyer and Mike

Weber as Gab, Fields as Weelum, in the burlesque of "Bunty"

George Beban as Teenie, Joe Weber as Gab, in "Bunty Bulls and Strings"

THE saying has lost its force: it is no longer true that you can't "come back": you *can* come back. For Mr. Meyer Fields and Mr. Mike Weber proved it recently at the Broadway Theater when, aided and abetted by most of their former associates, they triumphantly and incontestably *did* come back. From the moment when Mr. Fields, carefully holding apart the eyelids of one of Mr. Weber's eyes, proceeded to jab scientifically at his eyeball with his free hand, to the time when, disguised in whitewash and galoshes, they impersonated the "Dying Gladiator" group, there was not the slightest doubt about the matter. Eight years ago Weber & Fields, a national institution quite as assuredly as Congress or Colonel Roosevelt, attempted to dissolve themselves and become again separate and competing individuals. But the forces of nature and society cannot be thus outraged. It was inevitable that they should again come together. It was less certain that they could come back. But, as we have observed, they could and did, and great is the rejoicing thereat among a multitudinous public.

It has been said of the Weber-Field compound of humor that, though it is neither subtle nor deep, it is funny and clean. But this is to underpraise it. It is certainly funny and it is certainly clean. But it is also genuinely witty. Mere horse-play would never make the lasting impression that has been made on many minds by the Weber-Field comedy scenes. Their dialogue, their sallies, their "scenes," are packed with wit—and wit that is racy of the soil: that is utterly and completely American.

There is true wit, true comic imagination in such scenes as the rehearsal for the single drink (an unforgettable masterpiece of comedy), the choking scene, the scene of the red-and-green globe (would that this were revived in the present production!), and a dozen others that any appreciative Weberfieldian can recall. Here is a stage product as pungently characteristic as anything our national theater can show. We may not have produced the indisputable American drama—either high comedy or high tragedy. But we have produced Weber and Fields; and there is nothing in the world quite like them.

Of the old company, besides the two leaders, these have "come back": Willie (he shall not be "William" here) Collier, John T. Kelley, Fay Templeton, Lillian Russell, Helena Collier Garrick, Bessie Clayton, in addition to Frankie Bailey and the chorus. It is certain that the rude arithmetic of time must have added something of age to these gifted and delightful persons; but they show no evidence of the fact, except possibly that Miss Templeton has become a bit—but then she cheerfully admits the fact at which we have hinted in her opening lines, so obviously it would be supererogatory to set it forth in the cold brutality of type. Besides, it does not have the smallest effect on her adroit and delicate art as a comedienne. As for Miss Russell, Mr. Collier, Mr. Kelley, and the inimitable Mike and Meyer themselves, are they any older? But the mere idea is preposterous: they will never grow old.

The "Bunty" burlesque in Weber and Fields's new show. Fay Templeton as Bunty, Lew Fields as Weelum

The Gentler View

By FLORIDA PIER

On Matches

Is it oneself and all one's friends alone who, by a curious coincidence, cannot cow matches into staying in places where they may afterward be found; or is it that one is not more unfortunate than the rest of the world and that matches dominate everywhere? Housekeepers of system and determined men with frayed patience have both tackled the problem of disciplining matches, and they have both been vanquished. Dreadful little boxes with "Matches" stamped on the front have been fastened to the wall in every room in the house, perhaps with the hope that they might attract matches, but with a result which is a humiliation to human beings and another victory for matches. The boxes are always to be found on the wall, and the deluding, taunting label remains clearly visible; but there are never any matches in the boxes and nothing will induce matches once put in to stay there until the next time one comes. The more appliances there are for keeping matches the more laborious is one's life, for the unhappy fumbling is but continued the longer and that moment postponed when one goes out into the hall and, lifting up one's voice in an angry, baffled wail, cries, "Has any one seen the matches?"

Of course no one answers, because no one cares. Matches are things you always have to settle for yourself. Besides, you did not answer when they last called out. Every one is accustomed to hearing other people railing against matches. It is one of the ordinary sounds in the house, and from long custom it hardly interrupts one's reading. Even if any one did know where the matches were they would not tell. They hear you bumping around and they pause in their occupation just long enough to hope fervently that you do not find the matches that they secreted behind the clock. If you do not, they breathe freely; if you do, they accept it as the fortune of war, and see if they can tell by the sounds you make where you are hiding the same box. Matches are perfectly permissible loot. They do not in reality belong to any one, and so, if any one tries to preserve them to himself, it is almost a matter of honor to attempt a robbing of his hiding-place before you descend to the pantry and get them from an inaccessible third shelf, muttering as you go, "It's a very queer thing—of all the houses this is the most—" And on and on, until you have made yourself into an extremely disagreeable person, when, if the matches had only been where they should have been, your disposition might have been saved.

Every one has theories about keeping matches. Their scarcity is generally attributed to the bad management of some one else. But that is just part of the havoc that matches can play in the most amiably minded families. Some think that if a large quantity of matches were bought there would surely be a few boxes left when the necessary disappearance had taken place. But, going into the thing mathematically, it is seen that, counting the number of things to be lighted, the possible heads that pop off, the draughts that blow out other matches, the members of the family who secrete matches in their bedrooms and will not permit of their being searched for—taking all these on one side and adding a generous margin for understatement, there remains, when this is deducted from the gigantic number of boxes bought, a mystifying number that no one can account for. There is but one conclusion to come to. Matches go off by themselves and never come back. It can be proved by the empty boxes they leave behind them. Every one has had the experience of pouncing joyously on a box only to find it empty, and, on his crying out in his disappointment, some one always exclaims, "Well, it's very queer; I put a full box there this morning." On inquiry it has been found that people who live in one room have precisely the same troubles. Matches disappear when the occupants of the room have not once left it, and this where the corners are so few as to permit of complete searching. It is very queer. That is all that one can say: It is very, very queer. Here we are boasting constantly of our civilization and yet incapable of explaining this problem which touches us all so intimately.

Seals

SEALING a letter is nowadays the work of an instant. How was it accomplished before the invention of gummed envelopes?

The first seals consisted of a ring affixed to clay and later to chalk or a mixture of pitch, wax, and plaster. The use of wax did not become general until the Middle Ages. Beeswax yellowed by time was the first variety of it used and after them came sealing-wax mixed with a white substance. Red and green wax came in during the twelfth century and a hundred years later the list of colors was supplemented by nearly all those now to be found in wax.

During the First Empire the French began to use wafers brought from Italy by the soldiers of the French army. These wafers were cut with a punch from a thin leaf made of flour. Finally gummed envelopes began everywhere to replace the sealing-wax and wafers. The first of these envelopes were made in England about the year 1840.

The seals chosen by different people are often interesting as indicating personal tastes. Goethe, after his return from Italy, sealed his letters with an antique head such as that of Socrates, Minerva, or Leda. The seal of the astronomer Lalande had a ship engraved upon it and that of Meyerbeer the composer had a lyre with the legend, "Always in Tune."

Legal seals have always gone hand in hand with letter seals. The absurd little object so frequently encountered in legal documents—the bit of red, green, or blue paper or daub of sealing-wax—receives from lawyers a degree of importance the only excuse for which would seem to lie in its antiquity.

Certain of our States have practically abolished the seal, thus depriving it of any legal significance whatever. In others, however, it continues to be used in all seriousness and solemnity. Many judges have attached to it an almost magical value.

Some years ago an American died, leaving part of his estate to another to enjoy while he lived, with the privilege of devising it at his death to others whom he might select under his "hand and seal." A document was executed so devising the property, but it was contested by others claiming the property, on the ground that the paper contained no seal after the signature and that the devise was therefore void.

A wise judge, after a close scrutiny of the signature and a patient listening to the arguments of counsel, decided that at the end of the signature there was an extra scroll or flourish made with the pen with which the signature was made, and that this was sufficient in law to constitute a real seal.

Cockney

THERE are not wanting authorities who rise to the defense of the Cockney speech, as was evidenced a year or two ago when the London County Council passed a resolution recommending measures that would drive the dialect from the schools of the English capital. Then appeared a certain Mackenzie MacBride, who put forth various pamphlets and a book to show that Cockney is no modern dialect or corrupted form of the King's English, but that it has an ancient and honorable lineage running back for nearly a thousand years.

Mr. MacBride points out that when the individual "who was born within the sound of Bow Bells" says "thet" for "that," "benk" for "bank," and "byliff" for "bailiff" he is guilty of no corruption of the English language, inasmuch as these pronunciations have obtained not only in London, but in Kent and Surrey for hundreds of years.

In like manner are justified "abaht" and "ahtside" for "about" and "outside." It is further contended that many Londoners have been laughed out of these ancient and excellent pronunciations, and Mr. MacBride earnestly urges them not to change their speech by reason of any uncalled-for animadversions against it.

Whether Mr. MacBride be correct or not in his contentions, the fact remains that Cockney has survived for many centuries in the midst of speech that is deemed more cultured. It is a curious fact that in the Bahama Islands, which were settled more than two hundred years ago by Londoners, the Cockney dialect is as strong as it is in Cheapside.

Frozen Eye-glasses

OPTICAL glasses cannot be cut unless fixed immovably. To this end they are glued to iron frames of different sizes and various shapes. Until recently, when finished the plates of glass have been knocked from the frames with a light mallet, cautiously struck upon the edges of the plates. The work was hard and, as the least shiver of the edge, though imperceptible, disqualified the lens, the workman needed a very light, skilful hand. The discovery was made by an expert optician that the blocks of crystal separated more easily when they had been exposed to the cold during the night. This discovery has effected a revolution in the manufacture of special glasses.

Forest Industries

THE average person has little notion of the extent and variety of our forest industries. A list of these would be much too lengthy to give in full, but it is of interest to note a few of the most important of them.

Charcoal-making enlists not a little capital and a great many workers. The manufacture of wood alcohol and other products of dry distillation is an ever-increasing business. In the pine regions of the South the ancient industry of making pitch still flourishes, as does the manufacture of turpentine, chiefly produced from the long-leaved pine.

An industry of the forest that from the very first disclosed astonishing possibilities is that of the production of wood pulp for paper. Twenty-five years ago this business was in its infancy, but today it produces goods of the value of millions and millions annually.

Another important forest industry is the manufacture of excelsior, that unique utilization of forest products. In addition to the narrow strips of shavings with which everybody is familiar, the making of boxes of all kinds has opened up a market for many kinds of wood, such as poplar, which not so very long ago were looked upon as almost worthless.

One of the most interesting of the forest industries is the preparation of bark for tanning purposes. In this, hemlock plays the leading rôle. This industry exhibits a remarkable instance of the part played by America's forests in the world's commerce. One of the centers of bark production is northern Wisconsin. Within the past ten years large tanneries have been set up in the very heart of these forests and raw hides brought thither from far-away Argentina to be treated with the bark of the Wisconsin trees.

To summarize the remainder of the long list of these industries, mention must be made of the production of fencing material of all kinds, telegraph-poles, long logs for piles for the foundations of buildings, railway ties, etc. It is a noteworthy fact that these and various other products of the wood have this peculiarity: that even in this age of machinery they are chiefly supplied by the labor of men armed simply with ax and hand-saw. The most primitive of all forest industries still remains one of the most important—*viz.*, the cutting of fire-wood. In one year alone the management of a big estate in North Carolina netted enough from the sale of fire-wood to pay the considerable expense of managing that property according to the most approved methods.

Gas from Indian Corn

MAIZE is put to many and important uses which are interesting and relatively little known. The marrow of the stem is utilized, like the cocoanut, for cleaning the hulls of ships and in the manufacture of explosives. The spindles, after the grain is shaken out, constitute a white carbon, valuable as a combustible in prairies and in other places where there is little wood; for this purpose they command an excellent price. It was in considering this use that a chemist hit upon the idea of utilizing them for the manufacture of illuminating gas. Here were quantities of stalks being burned up as waste matter oftentimes, thus liberating oxide of carbon of incalculable value.

A society was formed to conduct experiments, with encouraging results. Various retorts were charged with straw and stalks and a gas was obtained which, after being purified by water, had a caloric potency equal to if not greater than ordinary gas. The cost of production was found to be below that of the gas in common use, especially in those parts of the world where maize is grown, the stalks being available for next to nothing.

The carbon liberated by the burning stalks can be utilized in still other ways by chemists: it may constitute an inexpensive lubricant for agricultural machines and is available as a fuel. Its abundance and high calorific potency speak for themselves regarding the relative cheapness of this substance for the purposes mentioned.

A Train Three Years Late

A TRAIN which left Bolivar in South America for a neighboring town three years ago has just arrived. The distance covered was 120 kilometers, and the reason for the delay was a storm which derailed the train, killed most of the passengers, and ripped up such a goodly portion of the railroad line that the company owning it was forced into bankruptcy. About six months ago an American engineer undertook the reconstruction of the road and brought the long-delayed train to the point for which it originally started.

The Wee Girl and the Big Man both like

Post Toasties

—thin bits of corn, first cooked, then toasted to a golden brown.

Usually the liking extends to the whole family.

The housewife likes this food, not only for its appetizing goodness, but because of its convenience. It requires no cooking—ready to serve instantly from the package with cream.

For breakfast; for lunch when the hungry little folks come from school; or for supper when something particularly dainty is wanted.

Post Toasties

are deliciously good.

"The Memory Lingers"

Postum Cereal Company, Limited, Battle Creek, Mich., U. S. A.

Canadian Postum Cereal Co., Ltd., Windsor, Ontario, Canada.

Finance

By Franklin Escher

A COMING REALIGNMENT OF RAILWAY TRAFFIC

CONNECTING Salt Lake City and San Francisco, there is a splendid nine-hundred-mile piece of new railway known as the Western Pacific. It is earning just about enough to pay the interest on its bonds and no more. There are silly stories afloat that the running of heavy passenger trains before the roadbed really had a chance to settle has put it in bad shape; but, as a matter of fact, the physical condition of the property is excellent. With its great bridges and culverts and its well-ballasted line across the Sierras to the Golden Gate, Western Pacific has the capacity for doing an enormous business. But instead of an enormous business the road is doing just about enough to keep it going—and with little prospect of improvement.

That is why Wall Street has made up its mind that a change in the affairs of Western Pacific is imminent. The capacity is there and the pressure of business is there, and when those two things exist in the same vicinity it's only a matter of time before they will be brought together. If the interests at present in control of Western Pacific can't feed the road enough traffic to make it pay, some one else can—and will. It's not as though a road of great freight-carrying capacity had been built in a section non-productive of traffic. From Salt Lake City westward and from San Francisco eastward there is a tremendous volume of traffic all the time passing across the mountains. Here is plenty of business for Western Pacific to do, and, in the opinion of some of the keenest railroad men in the country, it is not going to be long before Western Pacific will be doing it.

There has been so much inaccurate talk during the past few weeks about Western Pacific and the deals in which it is likely to figure that it may be well to take a glance back over the actual facts. The Western Pacific, it will be recalled, came into existence as a result of a disagreement between the late E. H. Harriman and George Gould as to the terms on which freight going westward over the Gould system was to be transported from Salt Lake City (where the Gould lines ended) to the Pacific coast. Which side was right in the matter makes no difference now. The outcome of the controversy was that the Gould interests decided to build their own line to the Pacific coast and be independent of everybody.

That was back in 1903, when the Gould system was a very different proposition from what it is to-day. From Buffalo to St. Louis there was the Wabash, not an over-prosperous road even then, but in infinitely better shape physically and financially than it is now. From St. Louis to Pueblo, Colorado, there was the Missouri Pacific, at that time still a big earner. From Pueblo to Salt Lake City there was the Denver & Rio Grande. Over these three lines, therefore, there was a continuous route from Buffalo to Salt Lake City.

The construction of a line from Salt Lake City to the Pacific coast having been determined on, it seemed altogether logical to complete an ocean-to-ocean route by getting control of some line between Buffalo and an Atlantic seaport. How the attempt was made and how the whole plan broke down is now a matter of history. When the smoke had cleared away the Gould system found itself in a greatly weakened position. Instead of the gaining of the desired outlet on the Atlantic coast, the net result was that the Gould grip on Wabash was so weakened as virtually to cut it out of the erstwhile Gould system. That system from then on, as a matter of fact, came just as far east as St. Louis and no farther.

All this has an important bearing on the future of Western Pacific, because construction of Western Pacific was started on the idea that by the time the road was finished the Gould lines would run unbroken from San Francisco to Baltimore. That would have meant a big volume of traffic for the westernmost link in the chain. There is not the slightest doubt that had the original plan gone through, Western Pacific would today be getting a volume of traffic sufficient to make it a big earner.

By the failure of the transcontinental scheme, however, Western Pacific finds itself in an unfortunate position. Instead of the big business it was to have received as a link in a chain of roads running across the continent, practically all the traffic the road is getting now is what is handed over to it by the Denver & Rio Grande and the Missouri Pacific. And during the past few years the affairs of neither of these roads have prospered. Missouri Pacific still originates a good deal of west-bound business, it is true, but no very great proportion of this business is bound all the way through to the Pacific coast. What the Denver and the Missouri Pacific together are able to hand over to Western Pacific in the way of coast-bound freight doesn't amount to much.

Now the Western Pacific, as has been pointed out, was constructed to handle a much larger volume of business; and in order to build the road in the way in which it was built, a big lot of bonds had to be issued. It is thus not only a matter of freight-carrying capacity lying idle. It is a case of interest on bonds having to be earned. Nine hundred miles of road laid down with eighty-five-pound rails and according to the latest engineering standards cost a lot of money to construct, and on this money interest has got to be earned. Western Pacific started off with $50,000,000 of first-mortgage fives, but that wasn't enough, and before the road was completed about $18,000,000 more of second-mortgage fives had to be sold. Upon Denver & Rio Grande (which guaranteed these bonds) the strain has already become very heavy —so heavy, indeed, that the Denver's own preferred stock has had to break its twenty-year record and stop paying dividends.

The present condition of things cannot long continue. Denver & Rio Grande has so far been able to stand the strain of its guarantee of Western Pacific's bonds, but nobody knows better than the Denver officials themselves that Western Pacific cannot live on the traffic they are able to turn over to it. It was in anticipation of an entirely different state of things that the guarantee was originally given. Now that the situation has worked out as it has, the Denver has been forced into a position where it has either to sell the Western Pacific outright or else make some sort of a deal allowing one or more other railroads to use its facilities.

Because of its ownership of the Southern Pacific (which has a line from Salt Lake City to San Francisco) the Harriman system can be counted out of it—to acquire and hold so directly a parallel and competing line would be out of the question. That leaves just two other systems to be considered, Mr. Hill's Burlington and the Rock Island.

There has been plenty of positive denial from high sources of late that the Hill system is contemplating any deal by which it is to get the Western Pacific, but in several usually well-informed quarters in Wall Street there seems to exist a strong belief that it is to the Hill system that the Western Pacific will ultimately go. With Great Northern and Northern Pacific both reaching the Pacific coast, the Hill lines have no lack of transcontinental facilities. But the trouble is that both these roads find their outlet too far to the north. With the completion of the Panama Canal, it is San Francisco and the ports farther south which are going to get the greatest amount of benefit and whose desirability as railroad terminal points is going to be increased to the greatest possible extent. So far as traffic with the Orient is concerned, Tacoma and Seattle are at present just about as desirable railroad terminals as San Francisco. But will that be so when once the canal is in operation? Will not a great many steamers touch at the lower Pacific ports and then continue directly across the Pacific, instead of going so far out of their way to the northward?

Mr. Hill's statement awhile ago that transcontinental railroad facilities were such that inside of a couple of years after it was opened lily-pads would be growing in the Panama Canal was received with interest at the time, but actions speak louder than words, and the "Empire Builder" has shown himself very keenly alive to the coming change in the situation. First there was the acquisition of the Colorado & Southern—for no possible other reason could the Colorado & Southern have been acquired by the Hill interests than to give them an outlet on the Gulf of Mexico. That was directly in anticipation of the opening of the canal. And now, if in anticipation of the opening of the canal, Mr. Hill should take over the Western Pacific with its terminal at San Francisco, such action would seem to be no more than another step in a policy already well defined.

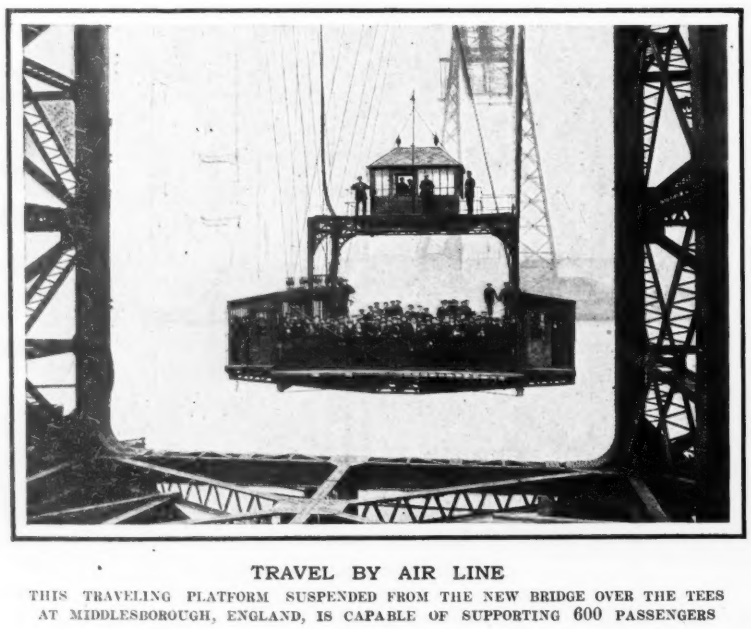
It may be, of course, that if Mr. Hill decides that he needs the Western Pacific he will make no attempt to buy it outright, but will make a traffic agreement by which, for a long term of years, Western Pacific's facilities become available to the Burlington. In view of Western Pacific's big bond capitalization, that is not improbably what would be done. Under such an arrangement the Burlington would get what it needs, while, with the Hill lines' traffic going over it, Western Pacific should soon cease to be a burden on the parent company and become a profitable investment.

If the Burlington doesn't take over or make a traffic alliance with the Western Pacific, the Rock Island will —that seems to be the way in which a large part of the Wall Street community looks at the matter. Very strong are the reasons why the Rock Island *should* want the Western Pacific. Itself a magnificent property and reaching most of the primary railroad centers of the Middle West, Rock Island is, nevertheless, absolutely landlocked. The road's long-haul business is not what it should be, nor what it would quickly become if the system had a coast outlet. The Pearson-Farquhar syndicate realized that when they tried to make Rock Island the backbone of a transcontinental system two years ago. Railroad men have always realized it. The trouble has been that the opportunity for securing a coast outlet on reasonable terms has never presented itself, and Rock Island has not been in a position to undertake the construction of an independent line.

What has been said with regard to the opening of the Panama Canal being an incentive to the Burlington to get an outlet at San Francisco, applies with even greater force to the Rock Island. The Burlington, at least, through its connection with the Northern Pacific, gets an outlet on the Pacific Coast; and, through its ownership of Colorado & Southern, gets an outlet on the Gulf of Mexico. The Rock Island has neither. Were the Panama Canal to be opened to-morrow, the Rock Island would stand to profit less thereby than any other of the great Western systems. As long as this influence did not count in the situation, the Rock Island was in a position to go ahead making money out of its semi-local business, unmindful of how its neighbors might be extending their connections. But whether that attitude can longer be maintained is very much of a question.

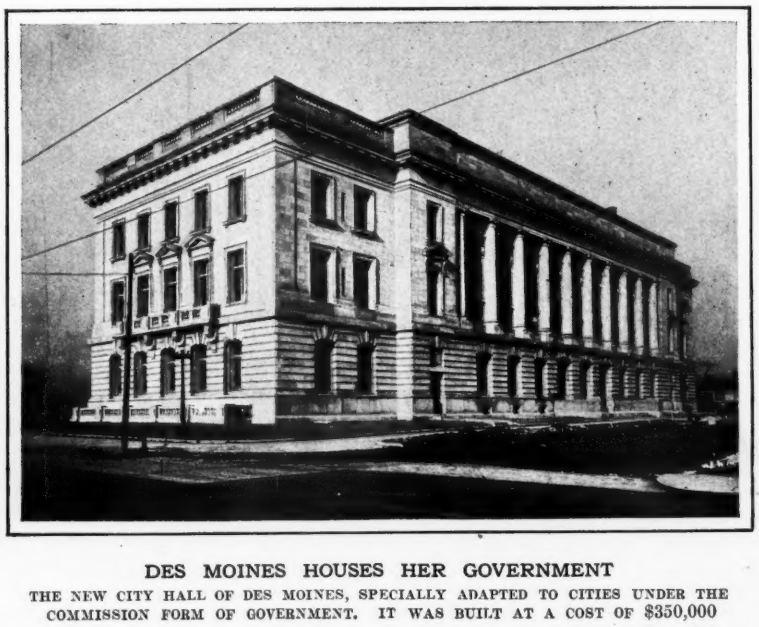
If Rock Island decides that it needs Western Pacific, will there be an outright purchase? Probably not; Rock Island would hardly want to assume the responsibilities which would go with such a deal; and, in the second place, would have no easy time raising the necessary money. Here, again, a traffic alliance for a long term of years would seem to be more reasonable.

The Burlington first and the Rock Island next; possible purchase by either company; more probably a long-term traffic alliance with either or both—that seems to be the logical outcome of this Western Pacific situation.



TRAVEL BY AIR LINE

THIS TRAVELING PLATFORM SUSPENDED FROM THE NEW BRIDGE OVER THE TEES AT MIDDLESBOROUGH, ENGLAND, IS CAPABLE OF SUPPORTING 600 PASSENGERS



DES MOINES HOUSES HER GOVERNMENT

THE NEW CITY HALL OF DES MOINES, SPECIALLY ADAPTED TO CITIES UNDER THE COMMISSION FORM OF GOVERNMENT. IT WAS BUILT AT A COST OF $350,000

A New Method of Grafting

FRUIT-TREES that have been cultivated for many years present numerous varieties in every species. The plant-breeder is interested in increasing the number of plants of the desirable varieties as much as possible, but is met at the start with the fact that these special varieties do not come true from seed. Indeed, some of the varieties that have special value produce no seeds at all, as seedless grapes or seedless apples. In such cases the common methods of propagation have been by cuttings and by grafts.

In making cuttings twigs of the selected plants are set out in sandy, well-ventilated soil, under proper moisture and temperature conditions, until roots are formed. In time the slip becomes an independent plant. This method is simple enough, but requires several years of unproductive growth for each new plant. In the grafting method twigs of the selected plants are set into cuts made in older plants, so that the cut surfaces of the two members will heal and the branch becomes as a part of the older plant. In this union the graft or scion will continue to bear flowers and fruits of its own variety. It is possible in this way to have one old apple-tree hold up and nourish several branches that bear as many different varieties of fruit. By following this method more work is involved than in the method of cuttings, but much time is saved, for a grafted scion may begin to bear in the second or third year.

In recent years plant-breeders have been more than usually interested in introducing new plants from foreign countries, especially novelties in the way of new fruits. When seeds of such plants are imported it is impossible to tell how they are going to turn out except by waiting for the fruit; this means a delay of several years. In the production of new varieties by the process of hybridization the same difficulty must be overcome; the seeds from the cross do not show their value, in the case of fruit-trees, for several years. To meet these difficulties Mr. George W. Oliver, government expert on plant propagation, has worked out a method for trying out young plants of several varieties of fruit-trees by a special process of grafting.

This process is the so-called "seedling-inarch" method of propagation and has been tested especially with the mango, the finger-lime, the mangosteen, and the Chinese "litchi nut." Young plants are grown from seeds in large numbers. After they are a few weeks old each is placed in its own pot, being set near the edge of the pot instead of near the middle. When well established the plant is removed from the pot, with the adhering soil, and the ball of earth wrapped in a piece of cloth to keep the soil in place about the roots and to prevent drying. The seedling has a piece of the stem cut away and a cut of corresponding size is made on a selected twig of an old, well-established, and vigorous plant of the same or a related species. The cut surfaces are applied against each other, the two stems are tied together, and the seedling left to grow to the older stem. After four or five weeks the root of the seedling is cut away and the upper part of the stock twig is also removed; if the operation has been successfully performed, the crown of the seedling is growing as a twig on an old tree. Several hundred seedlings may be "inarched" in a comparatively short time and they will bear fruit the following year. As each plantlet used is labeled as to its origin, the grower can tell the value of new varieties or of hybrids in a much shorter time than he could by the old method. The process of "inarching" is not new, but the method worked out by Mr. Oliver is a great improvement on previous methods as to simplicity of operation and expense.

A special application of the principle is made in the case of the mangosteen and the litchi. These plants are grown from seed only with great difficulty; after a few weeks the seedlings begin to lose color and most of them eventually die. Mr. Oliver has successfully applied to these species the method of the "nurse plant." This method consists of inarching the young seedling to a vigorous plant of another, but related species. The seedling is in its own pot and this is placed in the soil close to the base of the "nurse plant." The two stems are brought close together, a portion of each is cut away, and the exposed surfaces are applied to each other. The stems are fastened together until the wounds are healed. When the seedling stem has established its connection with the roots of the nurse plant, the upper part of the latter is gradually removed, leaving a composite plant having a root system from one species and stem and leaves of another species. In some cases the mangosteen, after becoming established with the aid of a nurse plant, regrows a new root system of its own.

THE DOCTOR HABIT

And How She Overcame It.

When well-selected food has helped the honest physician place his patient in sturdy health and free from the "doctor habit" it is a source of satisfaction to all parties. A Chicago woman says:

"We have not had a doctor in the house during all the five years that we have been using Grape-Nuts food. Before we began, however, we had "the doctor habit," and scarcely a week went by without a call on our physician.

"When our youngest boy arrived, 5 years ago, I was very much run down and nervous, suffering from indigestion and almost continuous headaches. I was not able to attend to my ordinary domestic duties and was so nervous that I could scarcely control myself. Under advice I took to Grape-Nuts.

"I am now, and have been ever since we began to use Grape-Nuts food, able to do all my own work. The dyspepsia, headaches, nervousness, and rheumatism which used to drive me fairly wild, have entirely disappeared.

"My husband finds that in the night work in which he is engaged, Grape-Nuts food supplies him the most wholesome, strengthening, and satisfying lunch he ever took with him." Name given by Postum Co., Battle Creek, Mich.

Read the little book, "The Road to Wellville," in pkgs. "There's a reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest. ***

Anemia and Chlorosis

ANEMIA among human beings is a condition of the blood in which it fails to produce the normal number of red corpuscles or the normal amount of the red pigment in these corpuscles. The cause is usually attributed to an insufficiency of iron. For this reason persons suffering from anemia are directed to add iron to their blood by means of iron tonics. The green pigment of plants is in many ways similar to the red pigment of our blood and it also fails to develop when there is a shortage of iron in the food supply.

Professor P. Mazé, the French botanist, has found recently that the absence of iron is not the only condition that causes chlorosis or the failure of the green pigment to develop. In the course of experiments with culture solutions free from bacteria he found that the failure of green to develop in corn seedlings is not a pathological state in the sense of being a definite disease, but is a condition brought about by a variety of causes, of which the privation of a special element is only one. He prepared solutions containing all the elements normally present in the soil water in which the maize thrives and successively removed from the culture solutions each of several elements, such as magnesium, iron, sulphur, chlorine, etc. The plants exhibited chlorosis only in two types of solution—namely, those that had no iron and those that had no sulphur. A plant deprived of sulphur became completely whitened in about five days; one deprived of iron lost its green in a little longer time. The bleaching begins near the base and gradually spreads toward the tip of the plant. This effect is not simply a change in color; all the tissues of the organism show the effects of imperfect nutrition. If a plant suffering from chlorosis is supplied with the lacking material, it soon recovers its color and vigor.

To show that the lack of one of these elements is the sole cause of the chlorosis, Mazé placed a drop of ammonium sulphate solution on the leaf of one of the whitened plants and allowed it to dry. Three days later the region immediately under the place where the sulphate was applied became green, and the green spot spread to an area of three to four times the diameter of the original drop. The green spot persisted until the plant died. A corresponding experiment with an iron solution produced similar results.

These experiments show further that the iron or sulphur is assimilated by the cells of the leaves and not transferred to the sap of the plant. These two elements are essential to the life of the plant and are needed in considerable quantities.

These discoveries may have important practical application in agriculture. Chlorosis of the grape-vine, as well as of other plants, has usually been attributed to lack of iron and to the excess of lime absorbed. This disease has yielded to treatment with sulphate of iron; but it would seem that the sulphur may have been the lacking element instead of the iron. In the treatment with iron sulphate the excess lime may precipitate the iron as carbonate and form sulphate of calcium. This is slightly soluble and is absorbed by the plant, thus supplying the needed sulphur.

Madam, will you try a package of Heinz Preserves at our risk?

WE KNOW our Fruit Preserves equal the finest product of the home kitchen—and we are willing to prove it to you at our risk.

All we ask you to do is to get a package of Heinz Preserves, Fruit Butters or Jellies from your grocer. And if you think you have ever eaten better preserves, return them to the grocer and he will refund your money.

We can make such a guarantee because Heinz Preserves are actually made the home way. We use a pound of sugar to a pound of fruit. We use as great care as the most exacting housewife; every berry is hand picked and thoroughly washed. Our kitchens are models of cleanliness—as any one of our 40,000 annual visitors will tell you—and our cooks are experts, with years of experience. And last, but not least, we have unequalled facilities for obtaining the best fruits—selected, fresh and luscious.

These are the reasons why Heinz Preserves, Fruit Butters and Jellies are unequalled in flavor, goodness and quality.

Heinz Preserves

Cherry, Damson Plum, Red Raspberry, Peach, Strawberry, Black Raspberry, Pineapple, Blackberry

Heinz Fruit Butters

Apple, Peach, Plum

Heinz Jellies

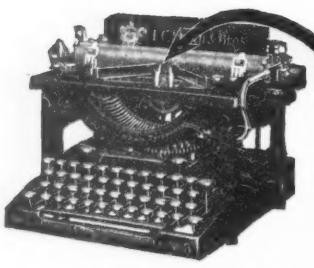
Currant, Quince, Grape, Crabapple, Elderberry

Grape Fruit Marmalade

Something new—Heinz Grape Fruit Marmalade, made from Cuban Grape Fruit with all its tropic richness and flavor. Pronounced by chefs as the finest ever offered.

H. J. Heinz Company—57 Varieties

Member of Association for Promotion of Purity in Foods



The Vital Point in the New Model Five

L. C. Smith & Bros. Typewriter

Ball-Bearing, Long Wearing

The Vital Point is the point where all the mechanical operations become resolved into one unit of effort—at the Printing-Center.

All the energy of this machine is concentrated on the type face the moment it touches the paper.

Smoothness and harmony of working are achieved through a wonderful system of ball-bearings. Vibration and jamming of the typebars are made impossible by the Typebar Guide. Other new features are the Geared Carriage Ball Controller and the Ribbon Color Switch.

Model Five has a certain crispness and vitality of key-operation that is a delight and a help to the operator.

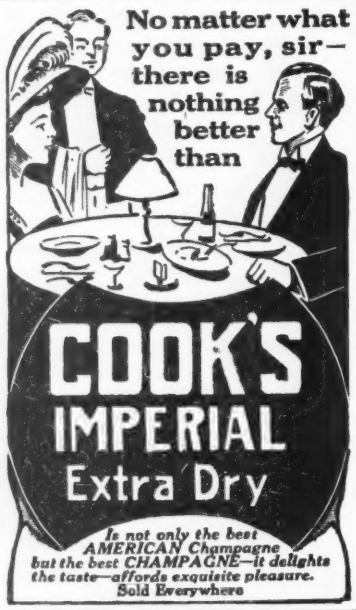
In this little bottle are 30,000 steel balls, every one of which has been tested and found to vary not one ten-thousandth of an inch. Fifteen balls are used in the bearing of every typebar. This attention to minute detail means efficiency for the finished product.

Write for the FREE book of Model Five

L. C. Smith & Bros. Typewriter Co.

Head Office for Domestic and Foreign Business

Syracuse, N. Y., U. S. A.



9 Day Tours of Japan

¶See Japan at her best—in April, the Cherry Blossom Season. By special arrangement with the Japan railway lines, passengers on the Steamship MINNESOTA have privilege of making inland route, Yokohama to Nagasaki or vice versa by rail at no additional expense.

¶This tour takes nine days, includes Tokyo, Nikko, Miyanoshita, Miyajima (Sacred Island) and trip along the Inland Sea.

¶Round trip on MINNESOTA to Manila and Hong Kong comprises delightful eleven weeks tour with best of accommodations at $337.50, first class. MINNESOTA sails from Seattle, March 16th; returns June 1st. Make reservations early. Send for handsome free book *"Nine Day Tours of Japan"* and illustrated folder.

H. A. Noble, Gen. Pass'r Agt., St. Paul, Minn.

Great Northern Steamship Co.

DR. GIVENS' SANITARIUM

For **Nervous** and mild **Mental** diseases. Has separate cottages for **Alcohol** and **Drug** patients. Address **DR. GIVENS, Stamford, Conn.**

The Cultivation of Trout

THE first cultivators of trout were the Chinese, whose food consists largely of fish found in fresh water. The Romans during the decadence of the Empire also practised fish culture, but it is really to the monks of the Middle Ages, who had an eye to appetizing food during the feast of Lent (when they were forbidden flesh), that we owe the beginnings of an industry now much improved upon in Germany, England, and France. Nevertheless, in no country has it been carried to so high a degree as in New Zealand, where trout may be obtained weighing from fifteen to twenty pounds apiece. In order to grow trout successfully healthy spawn is essential, running water, protection against natural enemies, convenient food, and, after a certain time, provision against the contingency that some of the trout may eat the others.

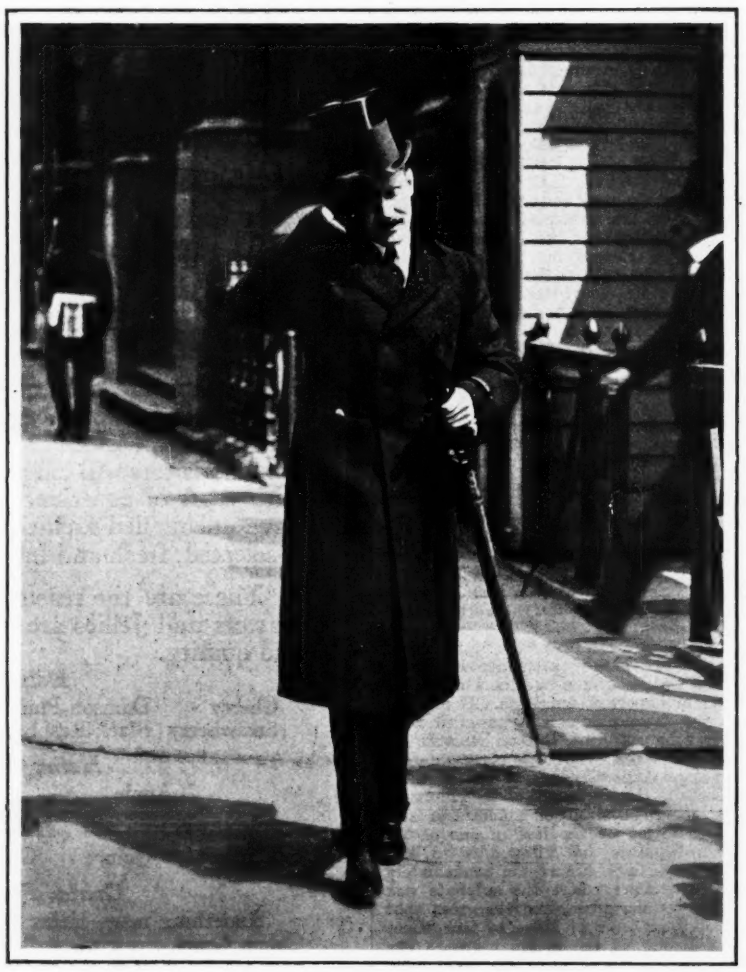
Before the eggs are hatched, usually in numbers of hundreds of thousands, they are collected in series of incubator boxes through which runs a stream of water pure and reasonably cold. Great care must be taken that rats or other animals that devour eggs be not allowed to enter. The process of development covers a period of from five to seven weeks. The first change to be observed is the elongation of the egg, and then two dark spots, which are the future eyes, appear. Another red mark begins to show where the heart will be. This changing form begins to move. If at this time the little egg is taken hold of the heat of the hand will soon loosen the shell. But it is best not to precipitate events. Scarcely have the fish left the eggs when they begin to resemble somewhat the spawn of frogs. They carry in the abdomen a transparent sac in which is contained food enough for several weeks. After a few weeks this sac disappears and the fish begin to move slowly, looking for food.

It is at this time that amateurs are most apt to lose the result of their labor, for it is extremely difficult to feed the fish. The natural food of little trout is mollusks or small insects such as are found in seaweed or aquatic plants, but it is also well to furnish them with eggs chopped very fine or well-pounded liver or other meat.

The incubators must always be scrupulously clean; they should be entirely gone over every two days at least, and at the time the little fishes lose their abdominal sacs it is a good thing to sweeten the running water. Even with the greatest care possible, out of thousands of eggs it has been found possible to raise only two or three dozen trout; and the dead must be at once removed from the incubators. Of course, if equally convenient in all cases, a pond is about fifty times more serviceable than an incubator, but the water in the pond must be in some way renewed, preferably by zinc pipes. Best of all is a brook of sufficient depth, but so arranged as to keep the fish in constant view either by an iron partition or a board which will prevent the fish from slipping under.

If the place where the fish are being kept is near the sea so much the better, because then it is an easy matter to obtain the little mollusks and other small animals of an aquatic nature for the necessary food.

The trout-growing industry is not a mere pastime, but a very lucrative business if well managed. Large business is done with city markets and with those deputed by the authorities to repopulate rivers with fish. In the latter case, if the fish have been kept hitherto in ponds, temporary change to tanks may be desirable. Then the water to which they have been accustomed should be gradually diluted with water from the river so as to prepare them for the destined change.



THE LONELIEST PRINCE IN ENGLAND

NOW THAT HIS FAMILY ARE AWAY, HELPING TO GOVERN CANADA, PRINCE ARTHUR OF CONNAUGHT IS LEFT IN LONDON TO TAKE CARE OF HIMSELF. DURING THE KING'S ABSENCE IN INDIA HE WAS THE ONLY ROYAL MALE PERSON IN ENGLAND

How Postage Stamps Are Made

THE manufacture of postage stamps involves a process not altogether simple. There is much labor given to the making of the little wafers with which everybody is so familiar. The first step toward the production of the stamp is, of course, the engraving of the die with which it is printed. Only steel of the finest quality is used for the purpose, and upon this the engravers slowly and laboriously cut line by line the portrait or the emblem that the government has selected for the particular stamp in hand.

Engravers call this die a "negative," for the reason that it is a reversal of the design that the stamp will exhibit.

Upon the completion of the die, proofs are "pulled." Should these prove satisfactory, the die is then hardened and fixed in the bed of a press of great power. Then a steel roller, whose circumference is several times the diameter of the die, is passed over it, immense pressure being applied, so that every line cut on the surface of the die may be impressed upon that of the roller as many times as the circumference of the roller is larger than the area of the die. The result is that there are reproduced on the roller four perfect copies of the die, but copies that are reversed. Engravers call these impressions "positives."

The next step is to harden the roller, in order that it may give the impressions once more, this time to the plate from which the real printing is to be obtained. This plate, which is also of the finest steel, is of a size large enough to print a sheet of stamps, numbering from two hundred to three hundred, at a single impression. Great pressure is brought to bear upon the surface of this plate, once for each stamp in the subsequent sheet; and then the plate is hardened. It follows, of course, that such impressions are "negatives," and that the prints obtained from them—the stamps themselves—are "positives."

It should be stated at this point that the reason why the printing is done in this way, instead of from a single die, lies in the fact that such enormous numbers of stamps are required. Then, too, the printing could not be done from the roller, inasmuch as on the roller the lines are in "relief," instead of being "incised." Furthermore, it would not be practicable to employ several dies, or a great number of them engraved; the expense would be too great, and no two stamps would be absolutely alike.

When the workmen have obtained three satisfactory printing-plates, these are fastened to the bed of a special kind of printing-press. Peculiar care is exercised in the process of inking. Upon the starting of the machinery, the first plate is inked and wiped automatically until the plate fairly shines. This wiping takes away all the ink except that which clings to the lines of the two or three hundred engravings.

The printers lay over the plate a sheet of dampened paper, a slight degree of heat is applied to the plate in order that the ink may "swell," and then more pressure is applied. During all this time the second plate has been receiving its ink, and subsequently the third is brought into action, with the result that, although all three plates are on the same press, each one of them is at a given moment undergoing a different process from its fellows.

When the printed sheets have been properly dried, they are sent to a gumming-machine. In this they are passed between a dry roller on one side and a roller moistened with mucilage on the other. From the rollers they emerge, wet side up, on to an endless web that conveys them through a steam-heated box.

From this box they reappear to receive the perforations, which are made by passing the sheets between a cylinder provided with steel pins and a cylinder perforated with holes to match the pins.

The last step in the manufacture of the stamp is the pressing of the sheets to overcome their tendency to curl by reason of the mucilage used. This pressing is accomplished by hydraulic power.

The stamps are now ready for the postmaster.

Hibernation of Mosquitoes

DR. HOWARD of the Department of Agriculture, who probably knows as much of the mosquito and its habits as any other man in the world, contends that this cosmopolitan pest does not necessarily perish with the coming of winter. On the contrary, mosquitoes have been observed to hibernate, adult specimens living from November until the succeeding April or May with all their powers of torment unimpaired, although their activity is suspended in winter. The mosquito needs but little food and it is the female that thirsts for blood, the males contenting themselves with water and vegetable fluids.

The fact that mosquitoes are often found upon dry prairies many miles from water is ascribed to the longevity of the adults of certain species which enables them to survive seasons of drought. Railroads have been responsible for the transmission of mosquitoes into regions where they were previously rare.

Gathering Stones for Teeth

UPON the rocky coast of Normandy between Havre and Dieppe are to be seen numbers of men and boys of all ages walking slowly up and down the shore and occasionally picking up a pebble and placing it carefully in sacks which they carry. When these sacks are filled they are carried to a foreman, who examines the pebbles carefully and pays the collector.

The pebbles gathered are not very abundant, but the constant washing of the shore produces more each day, and the work goes on, while the business—for it really is quite an industry—seems to pay those engaged in it.

These small stones or pebbles are shipped across the sea to the United States where they are reduced to a fine powder, which is afterward converted into a very fine grade of porcelain, from which many of the best false teeth are made.

Our Newly Discovered Potash Fields

In the giant kelps of the Pacific coast a source of potash has been found that will yield from two to three times as much potash as the present importation, which amounts to about fifteen million dollars annually and comes from Germany.

This discovery was made by the Agricultural Department after a year's search and this country should soon be able not only to supply its own needs of potash salts, but even possibly to export to foreign markets.

Congress last year appropriated some thirty thousand dollars for the purpose of discovering, if possible, a source of potash supply in this country. This act of Congress grew out of a desire to become independent of foreign sources. This country possesses the largest phosphate fields in the world and not only supplies all that is required for home consumption, but also exports large quantities to foreign countries. All of the potash, however, required for our fertilizers is imported from Germany.

The Pacific seaweeds are able to extract, by selective absorption, the potash salts from the sea water, and when they dry these salts are exuded on the surface. The dried plants contain from twenty-five to thirty-five per cent. of their weight of potassium chloride, which can very readily be extracted. The kelps also contain iodine and other by-products, and it is possible that these by-products will more than pay the manufacturing expenses.

Some of the Pacific groves are five miles long and two miles wide. The two principal plants reach a length of one hundred feet or more and grow in strong tideways or where they are exposed to the full force of the open sea. All of the groves are within the three-mile limit and can be easily harvested. The heaviest groves are south of Point Sur, but large ones extend as far north as Seattle. If properly harvested and protected, it is said that these groves will yield an annual harvest indefinitely and on a conservative basis upward of a million tons of potassium chloride, worth approximately forty million dollars, should be obtained each year.

Song of the Drum

I stir the blood with my rub-a-dub
And cheer the victors on;
I share my life with the squealing fife
In battles lost and won!

I thrill the brave, and I fill the grave
And raise the cry, "To arms!"
The drum's the thing with the saber's ring
To lift up war's alarms!

I ease the load on the dusty road
And tingle tramping toes,
I call the roll for the cannon's toll
Whether for friends or foes!

I spell defeat as I sound retreat
On fields with carnage red,
I play the tune to a bloody rune—
The requiem of the dead!

To the bugle's call as the colors fall
I add the tattoo's play,
When the sun goes down with murky frown
To end the soldier's day!

For a thousand years of hopes and fears
The drum has led the way;
It rouses the old, the young, the bold,
And nerves men for the fray!

Don C. Seitz.

Man's Inhumanity to His Watch

The chauffeur watches his motor, the machinist watches his machine, but few give a thought to the little time-keeper running night and day, ready to answer to the first appeal.

If instead of running backward and forward the balance-wheel ran straight around, like the wheel of a wagon, it would run a distance of twenty miles a day, and in three years it would cover a circuit representing the circumference of the globe. Running ten hours a day, at a speed of twenty-eight miles an hour, a locomotive would take eighty-nine days to traverse the distance covered by the wheel of the little watch in three years. The watch is fragile and very weak; the locomotive is strong and powerful. But the locomotive is oiled several times a day and at short regular intervals it receives a thorough examination. It is kept in working condition. The watch is never given oil to use according to its running needs. When finished and put in its case, oil is grudgingly applied to its working centers; and, thus provided for its incessant labor, it is put upon the market to run until constant friction brings it to a condition where it can run no longer. Not long after its run begins all that is volatile in its lubricant evaporates and all that is not volatile thickens and hardens to clog its delicate springs.

Three voiceless prayers, pathetic appeals of crying need, are sent out incessantly by the hard-worked slave of man—one for less careless handling, another for a closer covering for its mechanism, and a thirsty plea for the lubricant that no one but the watchmaker knows how to give. Let man be just. His watch is at his mercy; it is the servant within his gates. Let him not rap it upon the shell to rid its internal organs of their obstacles nor search its vitals in quest of dust. If the locomotive demands a quarterly overhauling, why not the watch? Its pivots are set in jewels so thin that a shock shatters them; let them be split even at one point and every turn of the wheel is a rasp. Man has no servant more untiring, more devoted, or less cared for than the object generally appreciated only according to the show made by its case.

THE BEST WORM LOZENGES for CHILDREN are BROWN'S VERMIFUGE COMFITS. 25 cents a box.*,*

Why Cats Fall on Their Feet

The ingenuity of a scientist has resulted in the construction of an apparatus to show why a cat in falling invariably alights on its feet.

This apparatus consists of a cardboard cylinder wherein are stuck four rods to serve for legs, together with a tail devised on similar principles. The object of the experiment is to show that a cat's peculiar faculty depends on the rotation of its tail with sufficient vigor.

It appears that this faculty is specially developed by climbing and leaping animals, such as members of the feline tribe, monkeys, squirrels, rats, and most lemurs. The tail plays a most important rôle in the turning process. According to the inventor of this apparatus, all tree-inhabiting monkeys have long tails, and there is not the slightest doubt that these tails are of great aid to all climbers in enabling them to turn in the air. The tail also acts as a balancer, as evidenced in the case of a squirrel, which may be seen walking along a tightly stretched wire or string, swinging its tail from side to side very much after the manner of the professional wire-walker balancing himself with a pole.

Rheumatism and Ionization

Sufferers from rheumatism, from gout, and from certain nervous affections are known to be very sensitive to changes in the weather. It has been impossible to establish any connection between this sensitiveness and variations in the temperature, the pressure, or the moisture. On the other hand, it has been observed that the hot springs which have been helpful to many of these sufferers differ from each other so radically from a chemical point of view that it has been impossible to throw any light upon the disorders from the side of effective treatment. In all of these hot springs, however, notwithstanding differences in temperature and in chemical composition, there is apparently a much greater amount of radiation than is found in the ordinary atmosphere; especially abundant are the *beta* and *gamma* rays from radium emanations and free electric ions.

On the basis of these considerations Dr. P. Steffens, of Freiburg, has made the suggestion that the suffering associated with changes in the weather is caused by electrical disturbances to which the patient is susceptible. In order to test this view experimentally, he subjected some rheumatic patients to a current of negative ions produced with the aid of a Roentgen-ray apparatus. The electrical "wind" thus produced seemed to have a beneficent effect upon the patients. The treatment was later applied to sufferers from heart disease, local skin and joint diseases, and other affections. From many successful treatments by this method Dr. Steffens concludes that the effect of bathing in hot springs is identical with the action of free ions.

Floating Gnat Eggs

Many thousands of gnat eggs are deposited on the surface of water in the form of great floating rafts.

These rafts will not sink and, if in some manner they are upset, they will again right themselves and continue to float on the surface.

They are held so closely together that they form a fine mesh, and the openings are so small that the water cannot penetrate between them. The mass will float for hundreds of yards just as it is carried by the motion of the water.

A fine mesh of wire will float just like the gnat egg owing to the fine openings, which will not admit the water to pass through. A pail made of the same mesh will not hold water, but it will float just as the rafts of gnat eggs do.

Hose That Can Go Anywhere

Those who know what "Holeproof" are like never wear any other hose—no matter where they go. You'll find "Holeproof" in the ballroom—silky, sheer and soft. You'll find the Lustre Hose—the "Holeproof" that looks like silk—and you'll find the silk itself. The style of these wonderful hose is equal to any surroundings.

The Reason

The reason is in the quality. We pay for the yarn that goes into "Holeproof" an average of seventy cents per pound. That is the top market price for cotton yarn. We could buy common yarn for thirty cents. But we use Egyptian and Sea Island cotton, the finest and softest and longest fibered. Because it is strong and light in weight we can make sheer hose that last six months. No maker who pays any less for yarn can ever make hose as good.

Carl Freschl

The genuine "Holeproof" bears the above signature—that of the originator. No other hose are genuine. So look for that mark.

FAMOUS
Holeproof Hosiery
FOR MEN WOMEN AND CHILDREN

The genuine are sold in your town. We'll tell you the dealers' names on request, or ship direct where there's no dealer near, charges prepaid on receipt of remittance.

Six pairs of "Holeproof" guaranteed six months for men, women and children, cost $1.50 up to $3, according to finish and weight. Silk "Holeproof," three pairs guaranteed three months, for men $2—for women $3.

Write for free book, "How to Make Your Feet Happy."

Holeproof Hosiery
Reg. U. S. Pat. Office, 1903
Carl Freschl

HOLEPROOF HOSIERY COMPANY, 102 Fourth Street, MILWAUKEE, WIS.
Holeproof Hosiery Co. of Canada, Ltd., London, Can., Distributors for Canada
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Are Your Hose Insured?

The World-Wide Fame of
HUNTER
BALTIMORE
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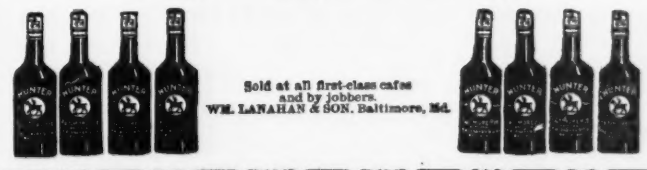

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The Effect of Noise on Fishes

EVERY fisherman knows that fishes are scared away by various sounds, but it is only in recent times that the scientists have determined with certainty the organs by which the animals perceive sounds. There are three means by which the fish can receive vibration stimuli of a kind corresponding to those which we "hear"; some vibrations are perceived by the skin, some by the "lateral line" which extends on each side from the gill cover to the tail, and some by the inner ear. The lateral lines, or, rather, the lateral line organs, perceive vibrations of much lower pitch than the human ear can distinguish. Since the fishes can perceive sounds of a wide range of pitch through so many channels, the question has been raised whether the increase in the number of motor-boats on lakes and rivers, etc., may not tend to drive the fish away or make their capture more difficult.

To answer this question Professor G. H. Parker, of Harvard University, has conducted a series of experiments for the United States Bureau of Fisheries. First he had a diver make observations on the sounds produced by a large motor-boat, with the escape-pipe in the air and with the escape-pipe in the water. At a distance of three to four yards the sounds of this boat, in the air, were very disagreeable, but in the water they could scarcely be heard. Curiously enough, to the person under the water the explosions were more easily perceptible when the escape-pipe was in the air than when it was in the water. However, since the hearing organs of fishes are different from those of man, as well as more numerous, these experiments could not be considered as conclusive.

Professor Parker accordingly arranged to have fishes of various kinds, such as scups, kingfish, killies, mackerel, and others, inclosed in cages or in nets under the water, where they could be carefully watched; and then the motor-boat was made to circle about and to approach or pass the fishes at various distances. These animals always go down into deeper water when they are disturbed; in the experiments with the motor-boat they all remained near the surface of the water until the movements of the waves or the churning of the propellers disturbed them. Nothing was observed to show that these fishes were disturbed by the noises of the boat. Even when the fish were feeding the noises did not seem to disturb them, although young bluefish that were easily caught with hook and line off a dock stopped biting for about a quarter of an hour if a motor-boat came up to the dock.

This may mean, however, that they were disturbed by the waves, etc., and not by the sounds, for in the same waters motor-boats were constantly passing in all directions without apparently disturbing the fish.

The explanation for this indifference of the fishes to the explosive sound of the motor-boat may lie in the fact that the sound reaches the fish as an increasing series at short intervals. It is a well-known fact that fishes are indifferent to a given sound after it has been repeated a number of times. Now the sounds of the motor-boat are first heard when they are too faint to startle the fish, and by the time the boat has come very close the sound has been repeated so many times that the fish has ceased to be sensitive to it.

The Memory of the Ant

EXPERIMENTS are continually being made to test the memory of animals, such as the elephant, the dog, the bull; but it would seem a thankless undertaking to ascertain whether the ant has a memory. Nevertheless, a scientist in South America thinks he has succeeded. Isolating two of the largest specimens of tropical ants he could find, he so arranged their receptacle that they could get no food without climbing over a circular slant into another compartment. Over this slant, when the food was not there, he placed a crimson cord, and the ants very soon learned to interpret the signal and never attempted to climb over it. Thinking, after a time, that there might be something in the color that repelled them automatically, as the bull is affected unpleasantly by red, he replaced the red cord by cords of varying colors, always with the same result after the ants had made a few excursions over the slant and come back hungry. Then he tried plain cloth and even paper, but the result was invariably the same. After a number of trials the ants refused to climb the slant when there was any sort of "signal." Finally the scientist reversed the signal, having food beyond the slant only when it was visible; and after an infinite number of trials the ants accommodated themselves to the change.

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The French Diver

THE diving-bell used in France is of the type perfected by Charles Petit. The apparatus is composed of two parts—the casque and the equipment. The casque is made of red copper tinned on the inner side; it is in the form of a sphere with four round glasses of transparent crystal which permit the diver to see in all directions.

At the back is a "goose-neck" pipe with a safety valve for use if the tube connecting the apparatus with the pump is broken. The air enters from three flat orifices and while passing carries out the steam of the diver's breath and thus prevents the mist from collecting and obscuring the windows. At the right of the casque a second safety valve lets out the vitiated air or lets in more air. By means of a very delicate attachment the divers can regulate the air according to his need. But if he is nervous, if he miscalculates his movements, too much air accumulates, the vestment is inflated, and the driver, despite his best efforts, rises to the surface like a distended bladder, with legs and arms spread like those of a frog.

The diving-bell closes by means of three bolts. The vestment is in one piece and of impermeable rubberized tissue double at the knees and at the elbows. The sleeves end in wristlets of pure rubber.

The shoulders are covered by a metallic cape; and, hanging from the front of the cape and from the back, over the back and over the breast, maintained by brass hooks, are leaden weights weighing forty pounds. The shoes are leather with a heavy leaden sole with brass toes. In his belt the diver carries the brass sheath of a dagger—needed in regions haunted by sharks, cuttle-fish, and other sea monsters.

Despite the acoustic tubes and microtelephones invented to hold the diver in communication with the surface, the rope is the only practical and reliable signal. One blow signifies "all right"; two blows, "more air"; three blows, "a little more air"; four blows, "haul me up."

The diver puts on woolen underclothes to absorb transpiration, draws on his leaded shoes, fastens his enormous casque, fixes his air tube, and adjusts his safety rope. Then he stands on his feet and slowly descends the ladder, looking like a tough-skinned sea monster. The moment most dreaded comes when he touches the crest of the waves. Then it seems to him that he is buffeted, beaten, and tossed to his destruction, and when he sees the waves that dance above his head he suffocates, a haze blinds his eyes, his brain reels, his eyes roar, and his heart fails. As he goes down the shadows deepen. And now a glassy opaque veil deforms all objects and gives them an appearance fantastic and horrible. He has lost consciousness of his whereabouts; it seems to him that he is rushing head downward, opposed on all sides by the water even when he touches bottom; he advances half bent, groping, with arms moving, like a timorous swimmer. When the bed of the ocean is uneven, he crawls on hands and knees. He breathes hard; his eyes are almost blind; yet he must work hard with hatchet or with knife, for he knows that the men ashore are pumping to keep the breath in his body, pumping and watching the rope, waiting for his signal.

No man embraces the trade of diver unless his heart is indomitably stout and his body in robust health. And even then he may die some instants—or some hours—after his return from the depths to the free air. At a greater pressure than two atmospheres different troubles attack him. He is stung by the "divers' fleas" or tormented by all but intolerable itchings. Below three atmospheres graver disorders appear, among them a deafness that may hold him until he dies, hemorrhages, paralysis of the feet and legs, symptoms of cerebral or pulmonary congestion.

The diver makes his ascent from the depths very slowly—one meter per minute—not as the fool makes it, mounting by closing the safety valve of his casque and rushing upward.

The Points of Our Stars

THE stars on our flag and those on the Great Seal of the United States, as well as those on the seal of the President, are five-pointed. The seal of the House of Representatives, however, shows six-pointed stars; and there are six-pointed stars on the obverse of the half and quarter dollar coins, with five-pointed stars on the reverse. The reverse of these coins is a copy of the Great Seal, with the clouds and the stars omitted. So far as can be ascertained, the six-pointed star is derived from the Colonial coins, which were designed in the manner of English heraldry, which sanctions that star.

The stars on the flag are copied from the Washington coat of arms.

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The Conquest of Mt. Coropuna

THE conquest of the highest peak of Mt. Coropuna, an ice-capped volcanic cone in Peru, has just been accomplished for the first time by Prof. Hiram Bingham, the head of the Yale Expedition. The ascent of this mountain, between twenty-one and twenty-two thousand feet in height and counted as one of the most difficult on the South American continent, is a notable feat in the recent history of mountaineering. Professor Bingham will give the first account of the ascent in Harper's for March. Illustrated with many photographs.

A Woman Spy Who Died for Her Cause

NO more romantic figure can be found in the entire history of the Civil War than Mrs. Rose Greenhow, a woman of gentle birth and breeding who did much heroic service as a spy for the Confederacy. William Gillmore Beymer has, after much research, gathered together the facts of this unique career, which are presented in an article of fascinating interest.

Mark Twain's Literary Beginnings

MARK TWAIN first became a professional writer in the early sixties when he went to work for Editor Joe Goodman of the "Territorial Enterprise" of Virginia City, Nevada. Here he first met Artemus Ward. Here he perpetrated many of his most famous literary jokes. The article by Albert Bigelow Paine, his authorized biographer, also covers his San Francisco experience and his first meetings with such men as Bret Harte, Anson Burlingame, etc.

Hunting the Swordfish

JAMES B. CONNOLLY, the well-known sea writer, gives a vivid picture of this exciting sport, and, incidentally, of the men who engage in it.

Oldest and Least-Known of Man's Senses

SIX of man's senses inform him as to the nature of the outer world; a seventh informs him of his own relations to that world. This important seventh sense is termed equilibration, and man is made aware of it whenever it is interrupted,—or, as we say, whenever his "gravity is upset." Dr. Edward A. Ayres, A.M., M.D., explains the automatic functioning of this sense in man and animals, in a novel scientific paper.

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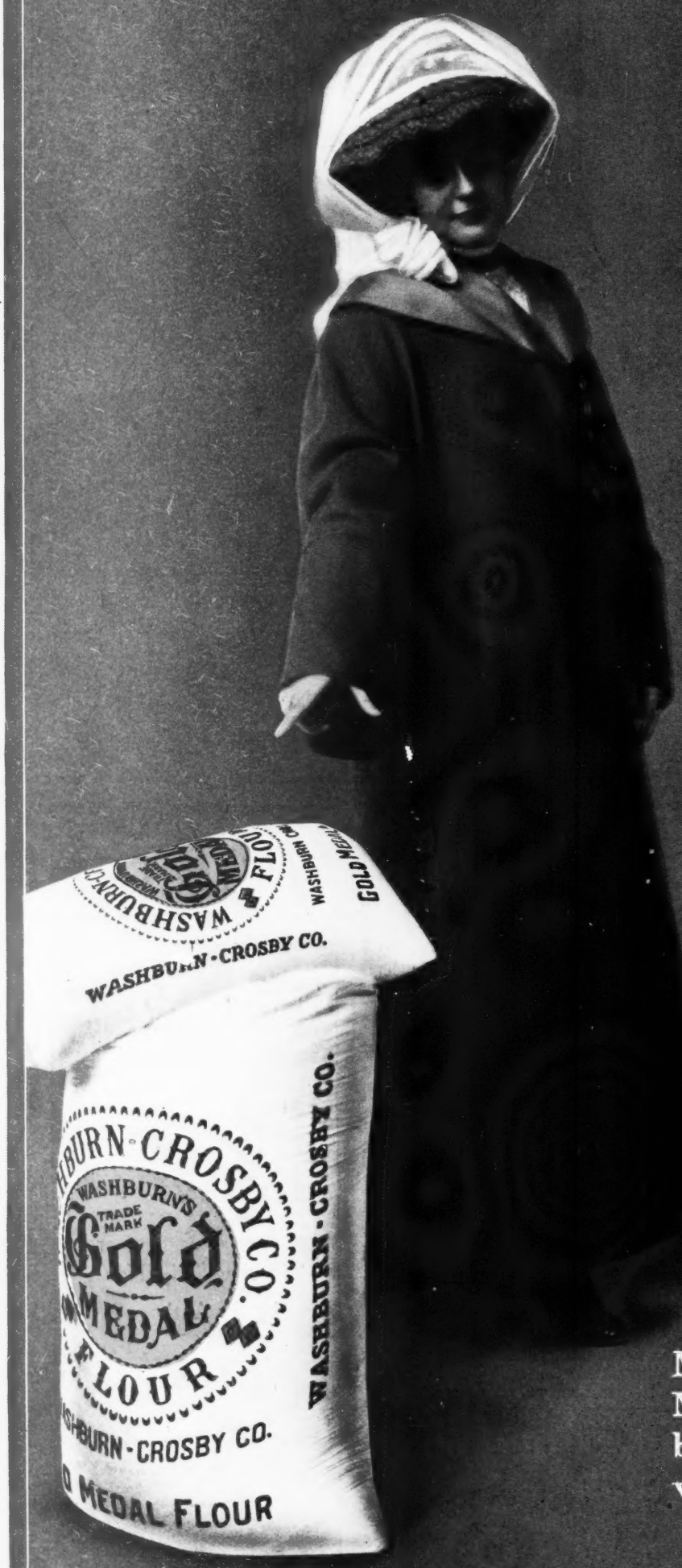

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